

222 South Riverside Plaza, Suite 820
Chicago, IL 60606
Telephone (312) 575-0200
Fax (312) 575-0300



Quarterly Monitoring Report

4th Quarter 2001

*L.E. Carpenter & Company
Wharton, New Jersey
USEPA ID# NJD002168748*

January 2002

Handwritten signature of Nicholas J. Clevett.

Nicholas J. Clevett
Project Manager

Handwritten signature of James J. Dexter.

James J. Dexter, C.P.G.
Project Coordinator



RMT, Inc. L.E. Carpenter & Company
Final
I:\WPWORD\PJT\00-03868\23MTHQTR01RPTCVR.DOC

© 2002 RMT, Inc.
All Rights Reserved

318135



Table of Contents

1.0 INTRODUCTION.....	1
2.0 MONTHLY EFR ACTIVITIES	2
2.1 INTRODUCTION	2
2.2 APPARENT FREE PRODUCT TRENDS.....	3
2.2.1 Western Region of Free Product.....	3
2.2.2 Western-Central Region of Free Product	4
2.2.3 Eastern-Central Region of Free Product	4
2.2.4 Eastern Region of Free Product.....	4
2.2.5 Site Total Apparent Free Product Area.....	4
2.3 RECOVERED FREE PRODUCT VOLUME ESTIMATIONS.....	5
3.0 QUARTERLY GROUNDWATER MONITORING.....	6
4.0 WATER TABLE ELEVATIONS	8
5.0 SITE INVESTIGATION AND REMEDIAL ACTIONS	9
5.1 MW19/Hot Spot 1 AREA GROUNDWATER DELINEATION.....	9
5.2 FREE PRODUCT	9
5.3 LEAD SOILS.....	9
5.4 MONITORED NATURAL ATTENUATION (MNA)	10

List of Figures

Figure 1	Site Location Map
Figure 2	Site Plan with Well Locations
Figure 3	Free Product Thickness Map
Figure 4	Site Wide Shallow Aquifer Potentiometric Surface Map
Figure 5	MW19/Hot Spot 1 Shallow Aquifer Potentiometric Surface Map

List of Tables

Table 1	Free Product Recovery
Table 2	Regional Apparent Free Product Trends
Table 3	Monthly Free Product Gauging Logs and Volumetric Extraction Calculations
Table 4	Current Quarterly Groundwater Monitoring Protocol
Table 5	Quarterly Groundwater Monitoring Data
Table 6	Quarterly Water Level Elevations

List of Appendices

Appendix A	Report Certification
Appendix B	Apparent Free Product Volume Trend Charts
Appendix C	Monitoring Well Sampling Data
Appendix D	MW-22R and MW-25 Groundwater Concentration Trend Analysis
Appendix E	Laboratory Report – Severn Trent Services, STL Edison

Section 1

Introduction

RMT, Inc. (RMT), on behalf of our client, has prepared this Quarterly Monitoring Report for the L.E. Carpenter and Company (LEC) site ("the site" or "the subject site") located at 170 North Main Street, Wharton, New Jersey (Figure 1). Quarterly monitoring events are performed at the site to comply with paragraph 35 of the 1986 Administrative Consent Order (ACO) issued to LEC by the New Jersey Department of Environmental Protection (NJDEP). We provide a summary of activities completed during the fourth quarter of 2001, including routine quarterly groundwater monitoring and monthly free product recovery activities. In addition, this report includes summaries of additional site activities performed during fourth quarter of 2001, and activities scheduled for commencement during first quarter of 2002. We have certified this report in accordance with requirements outlined in N.J.A.C 7:26E-1.5 (Appendix A).

RMT conducted the following tasks during the fourth quarter of 2001:

- Monthly mobile free product recovery using enhanced fluid recovery (EFR) techniques in accordance with the NJDEP approval letter dated August 20, 1997 (Ref. Section 2).
- Quarterly groundwater monitoring as required under the ACO (Ref. Sections 3 and 4).
- Responded to agency comments regarding the monitored natural attenuation workplan.
- Documented the installation, sampling and analysis of additional monitoring wells in the MW19/Hot Spot 1 Area.
- An investigation in November 2001 to delineate on-site lead contamination in soils.
- A subsurface investigation in December 2001 to further investigate viable free product remedial technologies

We provide a discussion of these activities in the referenced sections.

Section 2

Monthly EFR Activities

2.1 Introduction

In August 1997, the NJDEP approved the Remedial Action Plan (RAP) which described free product removal using enhanced fluid recovery (EFR) for the eastern portion of the subject site (east of the railroad right-of-way). EFR is conducted by applying a vacuum to product recovery wells to primarily remove free-phase product in addition to limited volumes of contaminated groundwater and contaminant vapors within vadose zone and capillary fringe soils. As the result of increased aeration, this procedure enhances any natural biodegradation that may be occurring in the soil and groundwater. The locations of the twenty-eight (28) EFR wells purged during each monthly EFR event and all groundwater monitoring wells are shown in Figure 2.

RMT arranged performance of three monthly EFR events during the fourth quarter of 2001 on October 25, November 20, and December 31, 2001. RMT coordinated measurement of the free product thickness in each recovery well (where applicable), followed by EFR. RMT's subcontractor, CEMCO, used the recorded free product measurements to determine the placement of the drop pipe that maximized free product recovery volumes. Table 1 lists apparent free product thickness measurements recorded during fourth quarter 2001. Severn Trent Services (groundwater monitoring subcontractor and certified laboratory) observed a measurable thickness of free product in 11 of the 72 locations monitored on October 26, 2001. Table 1 also provides a cumulative breakdown of EFR specific information such as minimum and maximum free product thickness levels (in feet), associated waste management costs, and extracted product (liquid and vapor phase) and groundwater volumes (in gallons) to date.

During fourth quarter 2001, EFR activities were conducted utilizing a Nortech, Inc. 55B vacuum head apparatus capable of producing a vacuum of 17-inches of mercury (in Hg) at 100 cubic feet per minute (cfm). This unit is connected to a fitted 55-gallon drum, and braced to a mobile 4-wheel drive vehicle. When compared to the previously utilized vacuum trucks, use of this system has enabled CEMCO to get closer to each individual EFR well head, minimizing potential losses in the system previously experienced due to the use of greater lengths of extraction hose, while maximizing the maneuverability of the drop pipe. Use of this system has also resulted in a more efficient EFR event, minimizing the volume of groundwater extracted. The average ratio of extracted groundwater to free product during the fourth quarter of 2001 was approximately 0.13 gallons/gallon. Before use of this method (November 1997 to December 1999), the ratio of extracted groundwater to free product was 4.7 gallons/gallon.

During the September 25, 2001 EFR event, wells #13, 17, and 21 were found damaged beyond EFR capability. These wells continued to be vacuumed manually during the fourth quarter. Depth-to-water and depth-to-product readings were taken from the highest part of the remaining casing. These EFR wells will be repaired during first quarter 2002.

Once the extraction apparatus is full (approximately 55-gallons), the free product and limited volume of groundwater are transferred to the on-site 550-gallon aboveground storage tank (AST) equipped with secondary containment for satellite storage. The fluids generated during EFR events, including purged groundwater generated during groundwater monitoring activities, are transported off-site by Clean Venture, Inc. (US EPA ID No. NJ0000027193) and managed by Cycle Chem, Inc. (USEPA ID No. NJD002200046) at their facility located in Elizabeth, New Jersey. During fourth quarter 2001, 200 gallons of waste fluids were transported off-site (November 20, 2001). The 200 gallons accounted for extracted volumes accumulated on-site from EFR events conducted in August, September, October and November 2001. The total fluid disposal volume consisted of approximately 100 gallons of free product, 10 gallons of groundwater resulting from free product extraction, and 90 gallons on groundwater generated during monitoring well purging activities.

2.2 Apparent Free Product Trends

The following sections describe apparent product trends in the western, western-central, eastern-central, and eastern portions of the historic free product area. Apparent product refers to a volume (in gallons) of free product occupying the casings of each EFR well. Total apparent free product represents the sum of product volumes from each EFR well within each of the four segregated regions.

The apparent product thickness is not representative of the actual free product thickness or volume that exists within the formation. RMT previously evaluated actual free product thickness and volume in our report entitled Free Product Volume Analysis (May 2000). That report estimated a total volume of recoverable free product actually present in the subsurface at 8,000 gallons. To facilitate description of the current distribution of free product, the zone of free product occurrence has been divided into four sub areas. These four areas from west to east are:

2.2.1 Western Region of Free Product

In the western portion of the free product area (EFR wells 1, 2, 3, 17, 18, 20, 21, and 28), there was a decrease in the total volume of apparent free product measured during the fourth quarter of 2001. Apparent total free product volume decreased from 5.79 gallons

in October 2001 to 4.6 gallons in December 2001. Free product thickness decreased in EFR wells 17, 21 and 28 during the fourth quarter, free product thickness increased at EFR wells 18 and 20, while thickness values at EFR wells 1, 2, and 3 remained consistent over the fourth quarter. In general, apparent free product volume in the western region appears to be decreasing (see Appendix B).

2.2.2 Western-Central Region of Free Product

In the western-central portion of the free product area (EFR wells 4, 5, 6, 7, 19, 22, 23, 24, 25, 26, and 27), the total volume of apparent free product increased from 7.33 gallons in October 2001 to 7.79 gallons in December 2001. During fourth quarter, free product thickness values were greater than third quarter results. However, the apparent free product volume in the western-central region appears to be decreasing since LEC initiated EFR in 1997(see Appendix B).

2.2.3 Eastern-Central Region of Free Product

The total volume of apparent free product increased in the eastern-central portion of the free product area (EFR wells 8, 9, 10, 11, 12, and 13) during fourth quarter 2001. Apparent free product volume increased from 4.63 gallons in October 2001 to 9.60 gallons in December 2001. However, the apparent free product volume in the western-central region appears to be decreasing since LEC initiated EFR in 1997 (see Appendix B).

2.2.4 Eastern Region of Free Product

During fourth quarter 2001, a small thickness of free product was detected in the eastern portion of the free product area at EFR Well 15. EFR extraction-wells 14 and 16 had no free product detected in them.

2.2.5 Site Total Apparent Free Product Area

The total apparent free product volume on the site, accounting for all 28 EFR wells, increased over the course of the fourth quarter from 17.74 gallons in October 2001 to 21.98 gallons in December 2001. In general, the total apparent free product trend chart indicates a steady decrease in the volume of apparent free product existing on-site (21.60 gallons in November 1997 to 17.68 gallons in November 2001). A cumulative breakdown of free product thickness and apparent free product volumes specific to each region is presented in Table 2. Additionally, trend charts for each of the four free

product regions, and for the site as a whole, that graphically display apparent free product volume fluctuations over time are presented in Appendix B. Figure 3 shows iso-thickness contours and the lateral extent of apparent free product on-site during fourth quarter 2001. This figure incorporates the apparent free product thickness measurements from the groundwater monitoring event conducted by Severn Trent Services on October 26, 2001, and the pre-EFR event measurements obtained by CEMCO on October 25, 2001.

2.3 Recovered Free Product Volume Estimations

After the completion of each EFR event, the total volume of extracted fluid was determined by gauging the 55-gallon vacuum head drum previously mentioned in section 2.1 with an oil/water interface probe. The drum was allowed to stabilize for one hour prior to gauging to allow for separation of emulsified product resulting from aggressive recovery. Gauging was conducted on a level surface and recorded thicknesses were converted to volumes based on a conversion of 1.65 gallons per inch of fluid thickness in the 55-gallon drum. Recovered liquid free product volume was determined by subtracting the volume of water from the total fluid volume collected in the 55-gallon drum. Vapor phase product volume was estimated based on vacuum head airflow (in cfm) and vented contaminant concentrations (in ppm) obtained during extraction at each EFR well. The volume (combined liquid and vapor phase) of free product extracted during each month's EFR event is presented in Table 3.

The total extraction volume (measurable free product, product vapor, and groundwater) during fourth quarter 2001 was 97.66 gallons. Approximately 88.99 gallons were measurable free phase product as determined by vacuum head drum gauging and vapor phase volume calculations, and 8.67 gallons were groundwater. Since initiation in December 1997, site EFR activities have removed approximately 14,395 gallons of total fluids, of which, approximately 3,277 gallons were measurable free phase product. Therefore, approximately 4,723 gallons of recoverable free product remains in the ground. Reference Table 1 for a complete breakdown of EFR related information.

Section 3

Quarterly Groundwater Monitoring

Groundwater monitoring activities were conducted on October 26, 2001, in accordance with the procedures contained in the NJDEP's *Field Sampling Procedures Manual* dated May 1992. Monitoring wells MW-4, MW-11D(R), MW-14I, MW-15S, MW-15I, MW-21, MW-22(R), and MW-25(R) were purged utilizing a peristaltic pump to remove at least three well volumes prior to sampling. During the well purge process, indicator parameters were monitored and recorded so that a representative sample of the formation water was collected for analysis. Monitoring well sample data for fourth quarter 2001 is presented as Appendix C. Once the wells were purged, samples were collected using Teflon coated plastic bailers. Monitoring wells were sampled and analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX) and bis (2-ethylhexyl) phthalate (DEHP) per the current groundwater monitoring protocol presented as Table 4. Locations of the quarterly monitoring wells are shown on Figure 2.

A sample duplicate, a field blank and a trip blank were collected to satisfy quality control requirements. The trip blank was prepared by the laboratory and remained with the sample containers until the samples were returned to the laboratory. The duplicate was collected from monitoring well MW-25(R) (duplicate sample No. MW-25D) and analyzed for DEHP. The field blank was collected by pouring distilled water through a Teflon coated bailer to verify that the field equipment was not adversely impacting the samples and decontamination procedures were adequate. Any sampling equipment used at each well was decontaminated prior to each use utilizing a soap and water wash and distilled water rinse.

The results of the chemical analyses were compared to New Jersey Class IIa Groundwater Quality Standards (NJGWQS). The presence of BTEX and DEHP was not detected at concentrations above NJGWQS in samples collected from MW-11(DR), MW-14I, MW-15S, MW-15I, MW-17S, MW-21, and MW-25(R). At MW-22(R), ethylbenzene, total xylenes and DEHP were detected at concentrations of 980 µg/L, 4,700 µg/L, and 15,000 µg/L respectively. All three of the contaminant concentrations detected at MW-22(R) exceed each of the corresponding NJGWQS. Ethylbenzene and total xylenes were detected above NJGWQS in the duplicate sample of MW-22(R). At MW-4, BTEX compounds were not detected above NJGWQS, however, DEHP was detected above NJGWQS at a concentration of 3,300 µg/L.

Even though contaminant concentrations at MW-22(R) have consistently exceeded NJGWQS, contaminant concentrations at downgradient monitoring location MW-25(R) have not exceeded NJGWQS since second quarter 1997, and contaminant concentration further downgradient at

MW-21 have never exceeded NJGWQS since sampling began at this location in first quarter 1999. We will continue to closely monitor the contaminant concentration-trend at all three locations. Concentration trends for contaminants of concern detected at MW-22(R) and MW-25(R) are presented as Appendix D.

Agency comments outlined in the NJDEP letter dated April 5, 2001 regarding their review of the 4th Quarter 2000 Monitoring Report (RMT, February 2001) requested that MW-11D(R) remain incorporated in the quarterly monitoring protocol; however groundwater collected from this location will continue to be analyzed for DEHP only. RMT has summarized the historical groundwater monitoring data, including the results from the fourth quarter 2001 sampling event, on Table 5. We have included the corresponding analytical laboratory reports in Appendix E. Severn Trent Services of Edison, New Jersey (STL-Edison) performed all site sampling activities and laboratory analyses.

Section 4

Water Table Elevations

On October 26, 2001, STL-Edison measured static groundwater levels from 72 different locations throughout the site (not including the EFR wells). RMT used these data to calculate groundwater elevations and evaluate the groundwater flow pattern in the shallow aquifer system (see Table 6).

Figure 4 displays the site-wide shallow groundwater equipotential surface, and indicates that groundwater flow direction in the shallow aquifer east of the rail spur is similar to that observed historically (generally toward the east). Also exhibited in Figure 4 are the effects caused by the presence of the drainage ditch and the Rockaway River. The drainage ditch acts as a local groundwater "sink", and shallow groundwater from a large portion of the site seeps into the drainage ditch. Shallow groundwater from the southern edge of the property is recharged directly by the Rockaway River and flows onto the site before turning eastward and, parallel to the Rockaway River and off-site toward the Wharton Enterprises property

Figure 5 displays the elevations of the water-table surface in the MW19/Hot Spot 1 area (northwest corner of the subject site). We include each specific measured groundwater elevation and show it next to each of the wells. The data show that groundwater flow direction in the shallow aquifer underlying this area is generally towards the east-northeast and is predominantly driven by recharge from Washington Forge Pond. Elevations measured in wells MW19-8, MW19-7, MW19-6, and MW19-2 control the bending of the contours where they are roughly perpendicular to the regional interceptor sewer that is located under Ross Street. This supports data that show the regional sewer line intercepts and locally controls shallow groundwater flow. The pattern of groundwater flow in this area is similar to that throughout 2000 and 2001, except that the water table has lowered and the groundwater mound beneath Building 9 has flattened out substantially during this period.

The potentiometric surface contours were generated using the measured fluid level elevations in site shallow wells. Some shallow well fluid elevations were not used to generate these contours because the observed values appeared to be in error, specifically, many of the wells denoted as "well points". These fluid elevations were combined with head values for the Rockaway River, the drainage ditch and the Washington Forge Reservoir.

Section 5

Site Investigation and Remedial Actions

The following section briefly outlines additional activities and scopes of work performed at various on-site areas of environmental concern during fourth quarter 2001, and summarizes future activities associated with each area.

5.1 MW19/Hot Spot 1 Area Groundwater Delineation

Monitoring well MW19-9D was installed, developed, sampled and surveyed during third quarter 2001. Documentation of these activities, sampling results, conclusions and recommendations were provided in the document entitled Results of MW19/Hot Spot 1 Area Well Investigation and Groundwater Sampling (RMT, October 19, 2001). No response from either NJDEP or USEPA has been received to date.

5.2 Free Product

In December 2001, RMT conducted a subsurface investigation to further investigate viable free product remedial technologies as outlined in the NJDEP approved workplan and amendment entitled Workplan to Evaluate Free Product Remedial Strategies (RMT, November 2001), and Amendment to Workplan to Evaluate Free Product Remedial Strategies (RMT, November 2001). Results of this investigation will be discussed with both the agency and department via conference call during 1st quarter 2002. RMT will contact all appropriate parties to coordinate communication of investigation results and proposed remedial actions.

5.3 Lead Soils

In November 2001, RMT conducted a subsurface investigation as outlined in the Revised Workplan for Delineating and Characterizing Elevated Lead Concentrations in Soil (RMT, May 2001) to delineate the extent of on-site lead contamination in soils. Results of this investigation will be discussed with both the agency and department via conference call during 1st quarter 2002. RMT will contact all appropriate parties to coordinate communication of investigation results and proposed remedial actions.

5.4 Monitored Natural Attenuation (MNA)

RMT provided a letter response dated October 23, 2001 to agency comments dated August 23, 2001 regarding the Workplan for Supplemental Investigation of Natural Attenuation of Dissolved Constituents in Groundwater (RMT, May 2001). No response from either NJDEP or USEPA has been received to date.

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date	Development	EFR #1	EFR #2	EFR #3	EFR #4	EFR #5	EFR #6	EFR #7	EFR #8	EFR #9	EFR #10	EFR #11 ⁽¹⁾	EFR #12
Well No.	November 21, 1997 Foot of Product	December 9, 1997 Foot of Product	January 7, 1998 Foot of Product	January 22, 1998 Foot of Product	February 17, 1998 Foot of Product	March 13, 1998 Foot of Product	March 27, 1998 Foot of Product	April 24, 1998 Foot of Product	May 29, 1998 Foot of Product	June 24, 1998 Foot of Product	July 31, 1998 Foot of Product	August 24, 1998 Foot of Product	September 17, 1998 Foot of Product
EFR-1	1.64	1.53	1.94	0.36	2.43	0.93	0.94	1.42	1.25	2.11	1.26	1.22	1.71
EFR-2	1.53	1.50	1.86	0.06	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21
EFR-3	0.85	1.02	1.27	—	1.58	1.19	0.60	0.24	0.19	0.77	0.72	0.93	1.03
EFR-4	1.03	2.27	0.54	0.07	0.30	—	—	—	—	0.03	0.38	1.23	2.40
EFR-5	4.03	3.74	4.25	0.32	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33
EFR-6	0.72	1.00	1.24	—	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42
EFR-7	0.17	0.09	0.16	—	—	—	—	—	—	0.02	0.02	0.03	0.07
EFR-8	0.00	0.00	0.00	—	0.08	—	—	—	—	0.03	0.04	0.08	0.13
EFR-9	0.00	1.10	1.79	1.15	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23
EFR-10	5.20	5.80	6.42	2.34	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34
EFR-11	3.07	4.04	4.28	5.64	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95
EFR-12	0.04	0.03	0.00	—	0.07	—	—	—	0.02	0.28	0.22	0.28	0.24
EFR-13	0.48	0.56	1.33	0.05	1.28	1.07	1.07	0.67	—	0.90	0.56	0.48	0.66
EFR-14	0.10	0.16	0.00	—	—	—	—	—	—	—	—	—	0.00
EFR-15	0.09	0.12	0.27	—	0.06	—	—	—	—	0.03	0.02	0.03	0.03
EFR-16	0.00	0.00	0.00	—	—	—	—	—	—	—	—	—	0.00
EFR-17	0.04	0.17	1.56	0.39	0.17	0.08	—	0.09	—	0.02	0.37	0.29	0.46
EFR-18	0.10	0.10	0.09	—	—	—	—	—	—	0.01	0.08	0.14	0.48
EFR-19	0.54	2.80	1.89	0.49	1.95	1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68
EFR-20	0.40	0.34	0.95	0.47	0.27	—	—	0.04	0.24	0.37	0.65	0.63	0.79
EFR-21	2.36	2.40	2.71	2.74	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86
EFR-22	3.78	4.10	0.05	4.81	3.49	4.69	3.42	1.82	1.22	0.96	2.86	2.57	2.97
EFR-23	0.00	0.06	0.06	—	0.02	—	—	—	—	0.05	0.11	0.08	0.27
EFR-24	0.00	0.00	0.00	—	—	—	—	—	—	—	—	—	0.00
EFR-25	2.95	3.00	3.55	0.26	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29
EFR-26	2.20	2.05	2.66	0.29	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17
EFR-27	0.15	0.02	2.71	0.02	0.74	—	—	0.03	—	0.02	0.33	0.48	1.49
EFR-28	2.20	2.30	1.78	0.48	2.60	3.30	3.48	4.40	3.16	2.61	1.47	1.73	1.69
MIN (ft)	0.00	0.00	0.00	0.02	0.02	0.08	0.03	0.03	0.02	0.01	0.03	0.03	0.03
MAX (ft)	5.20	5.80	6.42	5.64	7.47	7.06	6.05	6.71	5.73	6.08	4.94	4.52	4.34
Average (ft)	1.20	1.44	1.55	1.17	1.92	2.79	2.21	2.01	1.94	1.25	1.22	1.23	1.36
Total Free Product (ft) ⁽¹⁾	33.69	40.30	43.36	19.94	44.05	44.68	33.10	36.34	31.07	31.16	30.38	30.73	33.90
Total Standing Free Product Volume (gal)	21.40	25.83	27.79	12.78	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.04
Estimated Total Free Product Removed (gal) (Liquid and Vapor Phase Free Product Volume)	315.00	250.00	210.00	60.00	120.00	130.00	100.00	110.00	98.00	105.00	76.00	55.00	60.00
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000													
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000													
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000													
Groundwater Extraction Volume (gal) per each EFR Event ⁽²⁾ as of Jan 2000													
Total EFR Extraction Volume (gal) (Total Volume free product + groundwater + product vapor)	2350.00	1410.00	376.00	256.00	314.00	300.00	339.07	403.00	390.00	561.00	211.00	220.00	329.00
Estimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable ⁽³⁾	-	-	-	-	-	338	150	600	70	110	71	-	110
Total Volume Removed from Site (gal) (Manifested volume) ⁽⁴⁾	2,350	1,410	376	256	314	638	1,499	3,003	460	671	262	230	439
Cumulative Total Free Product Removed (gal)	315	565	775	855	975	1,105	1,205	1,215	1,410	1,515	1,591	1,646	1,706
Extraction, Transportation & Disposal Cost ⁽⁵⁾	\$ 3,976.37	\$ 2,712.62	\$ 1,130.50	\$ 1,130.50	\$ 1,219.12	\$ 1,431.87	\$ 1,541.31	\$ 2,038.43	\$ 1,240.75	\$ 1,347.68	\$ 1,324.62	\$ 1,638.93	\$ 1,383.18
Unit Cost per gal ⁽⁶⁾	\$ 1.69	\$ 1.95	\$ 3.01	\$ 4.42	\$ 3.85	\$ 2.26	\$ 3.15	\$ 2.03	\$ 2.70	\$ 2.01	\$ 4.70	\$ 8.36	\$ 3.15

Notes:
Product thickness was determined prior to the EFR event.

gal = gallon

All EFR Wells are 4 inch in diameter

EFR events 13 and 14 product removal was low due to significant quantities of product remaining emulsified

as the result of a short vac truck standing time prior to gauging

Product removal estimate does not take into account a % of product remaining emulsified due to high agitation
Indicates that this data will be known once the next EFR waste T&D event is performed

(1) Estimated free product (gal) based on Vacuum Truck gauging (interface probe) directly after each EFR Event and vapor monitoring during extraction (See Table 3)

(2) Total invoice disposal cost for EFR event (product and ground water) and monitoring well purge water from 1/4" well development and monitoring activities (if applicable)

(3) Total Cost per gallon includes product transportation & disposal, manifest prep, & regulatory admin. fee for combined EFR and GW purge water volumes (if applicable)

(4) EFR # 11 free product volume was 55 gal and contained PCBs (approx. weight 450 lbs total @ specific gravity of 1.18 lbs/gal). Disposal costs were significantly higher due to PCB content

(5) EFR # 23 cost and unit cost higher than normal due to additional vac truck trans and mob time. As the vac truck was broken when it reached the site, a 3 hour credit

will be applied to next month's T&D bill.

(6) Free product stored in an on-site 550-gallon AST equipped with secondary containment. AST contents, along with groundwater resulting from well purge activities

are drained and transported by CycloChem/CleanVenture every 90 days.

(7) Volume of ground water collected during each EFR event. Volume estimated using an oil/water interface probe on the 55-gal extraction drum. On-Site measurement began 1st quarter of 2000.

(8) Those volumes that are totaled over a specific period (beginning 1st quarter 2000) is that volume specific to each of the EFR event it represents.

(9) Estimated by subtracting the free product aqueous volume and extracted groundwater volume for each of the representative EFR event from the total removal volume manifested for a specific disposal event

(10) EFR events did not take place in January or February 2001 due to access issues caused by inclement weather.

Table 1

L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date	EFR #13 October 22, 1998 Feet of Product	EFR #14 November 20, 1998 Feet of Product	EFR #15 December 18, 1998 Feet of Product	EFR #16 January 13, 1999 Feet of Product	EFR #17 February 18, 1999 Feet of Product	EFR #18 March 24, 1999 Feet of Product	EFR #19 April 19, 1999 Feet of Product	EFR #20 May 18, 1999 Feet of Product	EFR #21 June 22, 1999 Feet of Product	EFR #22 July 20, 1999 Feet of Product	EFR #23 ^(a) August 27, 1999 Feet of Product	EFR #24 September 22, 1999 Feet of Product	EFR #25 October 27, 1999 Feet of Product
Well No.	1.59	1.71	1.57	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94	1.43
EFR-1	1.29	1.51	1.41	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63	1.25
EFR-2	1.01	1.19	1.18	1.14	1.01	1.63	0.36	0.25	0.86	0.88	1.03	0.74	0.69
EFR-3	2.17	1.75	1.79	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51	0.11
EFR-4	2.82	2.19	2.28	2.68	3.47	6.15	2.65	2.61	2.66	2.66	1.57	1.77	3.23
EFR-5	1.25	1.29	1.38	0.49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15	-0.06
EFR-6	0.05	0.20	0.16	0.02	0.04	0.04	0.07	0.01	0.08	0.28	0.05	0.01	0.07
EFR-7	0.09	0.07	0.03	0.12	0.00	0.03	0.03	0.03	0.09	0.39	0.27	0.09	0.13
EFR-8	1.31	1.26	1.86	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.41	0.28
EFR-10	4.38	3.98	3.99	3.68	5.79	5.51	4.97	4.23	3.71	3.63	2.47	3.02	5.18
EFR-11	4.06	3.65	3.52	2.42	4.69	2.64	2.02	2.48	3.29	2.78	1.57	1.93	3.20
EFR-12	0.15	0.29	0.17	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03	0.09
EFR-13	0.82	1.13	1.30	0.22	1.19	0.15	0.49	0.50	0.44	1.33	1.01	0.74	0.78
EFR-14	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-15	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04	0.02
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.56	0.71	0.53	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10	0.04
EFR-18	0.68	0.98	1.08	0.56	0.11	-	0.06	0.16	0.46	0.56	1.37	0.61	0.36
EFR-19	1.95	2.31	2.44	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.51	1.34
EFR-20	1.24	1.85	2.11	1.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47	1.92
EFR-21	1.77	1.67	1.62	1.21	1.43	1.62	2.25	1.49	1.46	1.57	1.04	1.01	2.32
EFR-22	2.83	2.58	2.27	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17	2.22
EFR-23	1.03	3.07	2.29	1.55	0.91	0.47	0.22	0.25	0.45	2.13	1.03	0.12	0.53
EFR-24	0.03	0.12	0.14	0.38	0.06	0.00	0.00	0.00	0.08	0.08	0.05	0.00	0.00
EFR-25	0.41	1.33	1.58	1.05	1.75	1.19	1.08	0.76	0.54	1.74	1.48	0.21	0.39
EFR-26	1.24	1.06	1.09	0.73	0.55	0.45	0.75	1.29	1.28	1.23	0.72	0.29	0.52
EFR-27	0.54	0.47	0.51	0.09	0.12	0.00	-0.00	-0.00	0.02	0.03	0.17	0.21	0.01
EFR-28	1.83	1.79	1.74	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38	2.19
MIN (ft)	0.03	0.07	0.03	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAX (ft)	4.38	3.98	3.99	3.68	5.79	6.15	4.97	4.23	3.71	3.63	2.47	3.02	5.18
Average (ft)	1.34	1.47	1.48	0.97	1.25	1.22	0.79	0.79	0.88	1.18	0.94	0.57	1.06
Total Free Product (ft)	34.92	38.30	38.26	25.27	31.14	31.84	22.00	22.20	24.54	33.11	26.36	19.94	29.66
Total Standing Free Product Volume (gal)	22.70	24.90	24.93	16.43	20.34	20.70	14.30	14.43	15.95	21.52	17.13	10.36	19.29
Estimated Total Free Product Removed (gal) ^(a) (Liquid and Vapor Phase Free Product Volume)	15.00	25.00	51.00	23.00	24.00	40.00	59.24	47.20	38.51	54.69	36.00	44.00	54.73
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000													
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000													
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000													
Groundwater Extraction Volume (gal) per each EFR Event ^(a) as of Jan 2000													
Total EFR Extraction Volume (gal) (Total Volume free product + groundwater + product vapor)	212.00	120.00	256.00	234.00	498.00	603.00	904.76	360.00	564.26	725.54	298.00	239.00	265.00
Estimated Volume Removed Resulting from Drum Purging (GW purge water) (if applicable ^(a))	-	-	110	-	235	-	139	-	-	374	-	-	199
Total Volume Removed from Site (gal) (Manifested volume) ^(a)	212	120	256	234	733	683	1,044	360	564	1,100	298	239	464
Cumulative Total Free Product Removed (gal)	1,721	1,746	1,797	1,820	1,894	1,934	1,993	2,040	2,079	2,133	2,169	2,213	2,268
Extraction, Transportation & Disposal Cost ^(a)	\$ 915.25	\$ 915.00	\$ 973.00	\$ 1,156.62	\$ 1,641.56	\$ 1,703.44	\$ 2,049.75	\$ 930.31	\$ 1,598.13	\$ 2,165.75	\$ 2,162.12	\$ 995.01	\$ 1,288.50
Unit Cost per gal ^(a)	\$ 4.32	\$ 7.63	\$ 3.80	\$ 4.94	\$ 2.24	\$ 2.49	\$ 1.96	\$ 2.56	\$ 2.83	\$ 1.97	\$ 7.26	\$ 4.17	\$ 2.75

Table 1
L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date	EFR #26 November 30, 1999 Foot of Product	EFR #27 December 14, 1999 Foot of Product	EFR #28 January 28, 2000 Foot of Product	EFR #29 February 18, 2000 Foot of Product	EFR #30 March 24, 2000 Foot of Product	EFR #31 April 19, 2000 Foot of Product	EFR #32 May 16, 2000 Foot of Product	EFR #33 June 16, 2000 Foot of Product	EFR #34 July 16, 2000 Foot of Product	EFR #35 August 17, 2000 Foot of Product	EFR #36 September 13, 2000 Foot of Product	EFR #37 October 25, 2000 Foot of Product	EFR #38 November 17, 2000 Foot of Product
Well No.													
EFR-1	1.47	1.20	1.22	0.85	1.66	1.59	1.54	2.10	1.51	1.26	1.53	1.00	1.07
EFR-2	1.28	1.40	0.06	1.04	2.25	2.00	1.64	1.89	1.40	0.36	1.08	0.97	-1.09
EFR-3	0.47	0.02	0.51	0.07	0.08	0.09	0.62	1.02	0.25	0.02	0.08	0.44	0.43
EFR-4	0.03	0.58	0.51	0.48	0.11	0.11	0.41	0.22	0.05	0.02	0.02	0.02	0.03
EFR-5	2.98	1.27	2.95	2.46	2.91	2.54	1.84	2.34	1.99	1.69	1.57	2.74	2.47
EFR-6	0.63	0.33	1.07	0.77	0.29	0.31	0.49	0.27	0.54	0.29	0.55	0.83	0.79
EFR-7	0.04	0.47	0.15	0.02	0.25	0.01	0.02	0.00	0.00	0.00	0.01	0.00	0.01
EFR-8	0.05	0.11	0.05	0.06	0.08	0.03	0.05	0.03	0.02	0.01	0.01	4.26	0.03
EFR-9	0.10	0.15	0.13	0.08	0.19	0.02	0.06	0.12	0.16	0.08	0.02	0.50	0.50
EFR-10	3.95	3.07	4.50	3.55	3.50	4.50	1.36	2.50	3.09	0.75	2.76	3.88	3.27
EFR-11	3.11	1.07	3.44	4.95	2.41	2.95	2.93	2.49	4.12	0.79	4.73	0.16	4.00
EFR-12	0.67	0.01	0.03	0.49	0.46	0.10	0.19	0.01	0.01	0.00	0.03	0.11	0.04
EFR-13	0.57	0.26	0.36	0.34	0.48	0.47	0.69	0.55	0.73	0.49	0.22	0.28	0.09
EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-15	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EFR-17	0.24	0.25	0.11	0.31	0.04	0.16	0.65	0.04	0.01	0.02	0.09	0.06	0.36
EFR-18	0.77	0.05	0.20	0.05	0.12	0.04	0.32	0.01	0.06	0.16	0.08	0.31	0.31
EFR-19	0.84	0.69	1.67	1.73	0.25	0.60	0.98	0.17	0.63	0.34	0.22	0.87	0.59
EFR-20	1.36	0.75	1.08	2.58	0.64	0.42	0.54	0.33	0.30	0.39	0.45	0.54	0.11
EFR-21	1.40	1.20	1.92	1.34	3.04	2.86	1.47	3.02	2.09	1.62	2.75	1.79	1.45
EFR-22	1.76	0.53	0.83	0.58	0.09	0.16	0.05	0.05	0.01	0.18	0.06	0.53	2.14
EFR-23	0.64	0.24	0.23	0.31	0.46	0.06	0.06	0.01	0.13	0.03	0.07	0.07	0.08
EFR-24	0.04	0.13	0.11	0.07	0.58	0.02	0.03	0.00	0.00	0.00	0.01	0.01	0.01
EFR-25	0.19	0.05	0.31	0.39	0.58	0.21	0.10	0.03	0.10	0.03	0.10	0.19	0.12
EFR-26	0.94	0.59	1.54	1.10	1.33	1.68	2.02	1.44	1.25	1.38	2.01	2.05	1.78
EFR-27	0.01	0.01	0.02	0.14	0.20	0.01	0.03	0.04	0.01	0.01	0.15	0.01	0.01
EFR-28	0.96	1.42	1.33	1.00	2.30	2.42	1.81	2.68	1.72	2.48	2.02	1.39	1.36
MIN (ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAX (ft)	3.95	3.07	4.50	4.95	3.50	4.50	1.93	3.02	4.12	2.48	4.73	4.36	4.00
Average (ft)	0.88	0.58	0.87	0.89	0.88	0.84	0.75	0.76	0.76	0.45	0.74	0.80	0.80
Total Free Product (ft)	24.59	16.37	24.34	24.79	24.62	23.38	20.91	21.30	21.14	12.49	20.67	22.51	22.25
Total Standing Free Product Volume (gal)	15.98	10.64	15.82	16.11	16.01	15.30	13.59	13.85	13.74	8.12	13.44	14.63	14.53
Estimated Total Free Product Removed (gal) ⁽¹⁾ (Liquid and Vapor Phase Free Product Volume)	44.79	49.34	43.52	51.66	48.14	45.46	43.50	43.66	46.38	22.05	25.07	44.12	35.36
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000				40.93	46.21	52.80	47.26	40.18	39.44	40.43	20.13	21.05	32.78
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000				6.55	7.93	10.19	5.85	6.31	5.05	7.60	5.22	5.26	6.58
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000				34.97	43.73	37.95	39.61	39.19	38.61	38.78	16.83	19.81	37.54
Groundwater Extraction Volume (gal) per each EFR Event ⁽²⁾ as of Jan 2000				3.96	2.48	14.85	1.65	0.99	0.83	1.65	3.30	1.24	1.45
Total EFR Extraction Volume (gal) (Total Volume free product + groundwater + product vapor)	249.07	350.00	47.68	54.14	62.99	47.11	46.49	44.49	48.03	25.35	26.31	45.36	37.01
Estimated Volumes Removed Resulting from Drum Purging (GW purge water) if applicable ⁽³⁾	82	-			357				110				134
Total Volume Removed from Site (gal) (Manifested volume) ⁽⁴⁾	331	350			538				250				225
Cumulative Total Free Product Removed (gal)	2,313	2,362	2,406	2,457	2,506	2,551	2,597	2,640	2,687	2,709	2,724	2,778	2,813
Extraction, Transportation & Disposal Cost ⁽⁵⁾	\$ 1,028.93	\$ 968.87				1,045.62				795.13	\$		752.31
Unit Cost per gal ⁽⁶⁾	\$ 3.11	\$ 2.77	\$			1.94	\$			3.18	\$		3.31

Table 1

L.E. CARPENTER - Wharton, New Jersey
Free Product Recovery - EFR Well # 1 - 28

EFR Event Date	EFR #39	EFR #40 ¹⁰	EFR #41	EFR #42	EFR #43	EFR #44	EFR #45	EFR #46	EFR #47	EFR #48	EFR #49	TOTALS
	December 15, 2000 Foot of Product	March 15, 2001 Foot of Product	April 21, 2001 Foot of Product	May 25, 2001 Foot of Product	June 13, 2001 Foot of Product	July 27, 2001 Foot of Product	August 24, 2001 Foot of Product	September 25, 2001 Foot of Product	October 25, 2001 Foot of Product	November 26, 2001 Foot of Product	December 31, 2001 Foot of Product	
Well No.												
EFR-1	1.16	2.91	1.25	1.02	1.16	0.57	0.80	1.29	1.60	1.51	1.57	
EFR-2	0.76	2.92	2.66	1.75	2.26	1.22	1.17	1.22	1.14	1.15	1.19	
EFR-3	0.46	0.33	0.29	0.49	0.70	0.40	0.66	0.51	0.81	0.76	0.80	
EFR-4	0.21	0.59	1.65	0.01	0.44	0.02	1.86	0.11	0.57	0.68	0.54	
EFR-5	2.76	3.95	1.75	1.90	0.62	2.24	2.05	2.25	2.58	2.10	2.67	
EFR-6	0.96	2.05	0.32	0.43	0.16	0.46	0.49	0.37	1.13	1.56	1.23	
EFR-7	0.01	0.28	0.02	0.02	0.00	0.00	0.16	0.00	0.05	0.08	0.24	
EFR-8	0.06	0.03	0.05	0.04	0.03	0.01	0.18	0.00	0.18	0.16	0.22	
EFR-9	0.77	0.57	0.07	0.56	0.07	0.14	0.27	0.29	0.54	0.85	0.32	
EFR-10	4.05	5.64	3.17	3.52	3.32	3.73	2.30	2.62	2.70	2.61	2.91	
EFR-11	3.73	2.82	2.41	3.56	2.60	3.91	2.37	3.86	3.22	2.44	2.90	
EFR-12	0.02	0.07	0.02	0.25	0.01	0.01	0.23	0.00	0.00	0.34	0.21	
EFR-13	0.15	1.14	0.27	0.78	0.26	0.39	0.47	0.38	0.46	0.88	0.44	
EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EFR-15	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	
EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EFR-17	0.01	0.41	0.31	0.51	0.28	0.02	0.49	0.34	0.85	0.97	1.57	
EFR-18	0.20	3.27	1.35	0.43	0.34	0.01	0.13	0.41	0.69	0.75	1.22	
EFR-19	1.42	2.32	0.65	1.98	1.01	0.44	1.19	0.54	2.15	2.36	2.38	
EFR-20	0.37	0.24	0.97	0.52	0.31	0.08	0.32	0.24	0.72	1.10	1.29	
EFR-21	1.37	4.09	3.51	2.96	2.61	1.98	1.41	1.87	1.58	1.58	1.54	
EFR-22	1.50	0.81	0.06	0.43	0.00	0.00	0.47	0.57	1.22	1.53	1.93	
EFR-23	0.39	0.07	0.03	0.88	0.28	0.05	0.34	0.07	0.85	2.47	0.75	
EFR-24	0.04	2.27	0.05	0.34	0.01	0.01	0.27	0.14	0.35	0.38	0.34	
EFR-25	0.10	0.04	0.39	0.23	0.14	0.03	0.47	0.09	0.43	0.63	0.64	
EFR-26	1.10	2.64	2.56	2.63	1.48	2.24	1.07	1.20	1.45	1.22	1.13	
EFR-27	0.01	0.48	0.05	0.04	0.00	0.01	0.04	0.00	0.52	0.49	0.13	
EFR-28	0.64	2.81	2.75	1.86	2.34	1.36	1.47	1.65	1.50	1.38	1.51	
MIN (ft)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MAX (ft)	4.05	5.95	3.51	3.56	3.33	3.91	2.37	3.86	3.22	2.67	2.91	
Average (ft)	0.79	1.60	0.95	0.97	0.73	0.69	0.75	0.70	0.97	1.91	1.29	
Total Free Product (ft)	22.23	44.76	26.62	27.24	20.38	19.33	21.08	19.52	27.29	30.01	29.67	
Total Standing Free Product Volume (gal)	14.45	29.09	17.30	17.71	13.25	12.56	13.70	12.69	17.74	19.51	19.29	
Estimated Total Free Product Removed (gal) ¹⁰ (Liquid and Vapor Phase Free Product Volume)	49.32	79.06	46.44	56.75	37.50	40.36	37.70	37.85	28.54	31.09	29.35	66 3,277
Estimated Total Fluids Removed (gal) (Liquid Phase Free Product Volume plus Groundwater Extraction Volume) as of Jan 2000	43.73	74.01	40.01	51.15	31.23	36.30	33.00	29.58	25.16	26.40	23.93	37 823
Vapor Phase Free Product Extraction Volume (gal) as of Jan 2000	6.42	11.06	8.49	8.90	7.50	6.53	6.35	4.76	6.26	7.99	7.91	7 154
Liquid Phase Free Product Extraction Volume (gal) as of Jan 2000	42.90	68.00	37.95	47.85	30.00	33.83	31.35	23.10	22.28	23.10	21.45	35 761
Groundwater Extraction Volume (gal) per each EFR Event ¹⁰ as of Jan 2000	0.83	6.01	2.06	3.30	1.24	2.48	1.65	2.48	2.89	3.30	2.48	3 63
Total EFR Extraction Volume (gal) (Total Volume: free product + groundwater + product taper)	50.15	85.07	48.50	60.05	38.73	42.84	39.35	30.34	31.42	34.39	31.84	288 14,395
Estimated Volume Removed Resulting from Drum Purging (GW purge water) if applicable ¹⁰	148				296				90			196 3,723
Total Volume Removed from Site (gal) (Manifested volume) ¹⁰		306			415				200			524 17,630
Cumulative Total Free Product Removed (gal)	2,863	2,942	2,908	3,045	3,092	3,123	3,140	3,188	3,217	3,248	3,277	N/A 3,277
Extraction, Transportation & Disposal Cost ¹⁰	\$		996.13	\$			1,175.19	\$		1,069.59		\$ 1,431.85 \$ 48,682.80
Unit Cost per gal ¹⁰	\$		3.26	\$			2.83	\$		5.35		\$ 3.47 N/A

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY
REGIONAL APPARENT FREE PRODUCT TRENDS

EFR Event Date	21-Nov-97	09-Dec-97	07-Jan-98	16-Feb-98	16-Mar-98	27-Mar-98	24-Apr-98	29-May-98	30-Jun-98	31-Jul-98	24-Aug-98	17-Sep-98
----------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

Western Region of Free Product	EFR-1	1.64	1.53	1.94	2.48	0.93	0.94	1.42	1.55	2.11	1.28	1.22	1.71
	EFR-2	1.55	1.50	1.86	2.20	2.96	2.92	2.65	2.44	1.78	1.12	1.09	1.21
	EFR-3	0.85	1.02	1.27	1.58	1.19	0.03	0.24	0.19	0.77	0.72	0.93	1.03
	EFR-17	0.04	0.17	1.56	0.17	0.08	0.00	0.09	0.00	0.02	0.37	0.29	0.46
	EFR-18	0.10	0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.14	0.48
	EFR-20	0.40	0.34	0.95	0.27	0.00	0.00	0.04	0.24	0.37	0.65	0.63	0.79
	EFR-21	2.36	2.40	2.71	2.74	4.14	3.97	4.23	3.98	3.29	1.97	1.87	1.86
	EFR-28	2.20	2.30	1.78	2.60	3.20	3.48	4.40	3.16	2.61	1.47	1.73	1.69
	Total Free Product (ft)	9.14	9.36	12.16	12.04	12.50	11.34	13.07	11.56	10.96	7.66	7.90	9.23
	Total Free Product (gal)	5.86	6.00	7.79	7.72	8.01	7.27	8.38	7.41	7.03	4.91	5.06	6.00

West-Central Region of Free Product	EFR-4	1.03	2.27	0.54	0.30	0.00	0.00	0.00	0.00	0.38	1.23	2.40	
	EFR-5	4.03	3.74	4.25	3.29	3.39	1.71	2.71	2.02	1.86	2.38	2.52	2.33
	EFR-6	0.72	1.00	1.24	2.27	1.71	1.17	2.23	1.55	1.56	1.96	1.56	1.42
	EFR-7	0.17	0.09	0.16	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.03	0.07
	EFR-19	0.54	2.80	1.89	1.95	1.63	1.44	0.88	0.65	0.42	0.90	1.26	1.68
	EFR-22	3.78	4.10	0.05	3.40	4.69	3.42	1.82	1.22	0.96	2.86	2.87	2.97
	EFR-23	0.00	0.06	0.06	0.02	0.00	0.00	0.00	0.00	0.05	0.11	0.08	0.27
	EFR-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00
	EFR-25	2.95	3.00	3.55	4.15	3.11	0.72	0.82	0.79	0.78	0.60	0.41	0.29
	EFR-26	2.20	2.05	2.66	2.30	2.12	1.43	1.32	1.95	1.21	2.06	1.58	1.17
	EFR-27	0.15	0.02	2.71	0.74	0.00	0.00	0.03	0.00	0.02	0.33	0.45	1.49
	Total Free Product (ft)	15.57	19.13	17.11	18.42	16.65	9.89	9.81	8.18	6.91	11.60	11.99	14.09
	Total Free Product (gal)	9.98	12.26	10.97	11.81	10.67	6.34	6.29	5.24	4.43	7.44	7.69	9.16

East-Central Region of Free Product	EFR-8	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.03	0.04	0.08	0.13
	EFR-9	0.00	1.10	1.79	0.16	3.08	0.08	0.07	0.11	0.29	0.61	0.98	1.23
	EFR-10	5.20	5.80	6.42	7.47	7.06	6.05	6.71	5.47	5.68	4.94	4.52	4.34
	EFR-11	3.07	4.04	4.28	4.47	4.32	4.67	5.91	5.73	6.08	4.73	4.47	3.95
	EFR-12	0.04	0.03	0.00	0.07	0.00	0.00	0.00	0.02	0.28	0.22	0.28	0.24
	EFR-13	0.48	0.56	1.33	1.28	1.07	1.07	0.67	0.00	0.90	0.56	0.48	0.66
	Total Free Product (ft)	8.79	11.53	13.82	13.53	15.53	11.87	13.36	11.33	13.26	11.10	10.81	10.55
	Total Free Product (gal)	5.63	7.39	8.86	8.67	9.95	7.61	8.56	7.26	8.50	7.12	6.93	6.86

Eastern Region of Free Product	EFR-14	0.10	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.09	0.12	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.19	0.28	0.27	0.06	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03
	Total Free Product (gal)	0.12	0.18	0.17	0.04	0.00	0.00	0.00	0.00	0.02	0.01	0.02	0.02

TOTAL APPARENT FREE PRODUCT VOLUME (GAL)	21.60	25.83	27.79	28.24	28.64	21.22	23.23	19.92	19.97	19.47	19.70	22.03
--	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY
REGIONAL APPARENT FREE PRODUCT TRENDS

	EFR Event Date	22-Oct-98	20-Nov-98	18-Dec-98	13-Jan-99	17-Feb-99	23-Mar-99	19-Apr-99	18-May-99	22-Jun-99	28-Jul-99	27-Aug-99	22-Sep-99
Western Region of Free Product	EFR-1	1.59	1.71	1.57	0.53	1.79	3.68	1.13	1.09	1.15	1.49	1.27	1.94
	EFR-2	1.29	1.51	1.41	0.95	1.40	2.42	1.46	1.22	0.92	1.21	1.00	0.63
	EFR-3	1.01	1.19	1.18	1.14	1.01	1.63	0.36	0.25	0.86	0.88	1.03	0.74
	EFR-17	0.56	0.71	0.53	0.26	0.08	0.06	0.06	0.08	0.12	0.39	0.36	0.10
	EFR-18	0.68	0.98	1.08	0.56	0.11	0.00	0.06	0.16	0.46	0.96	1.37	0.61
	EFR-20	1.24	1.85	2.11	0.65	1.33	0.88	0.43	0.89	0.87	1.59	1.86	0.47
	EFR-21	1.77	1.67	1.62	1.21	1.43	2.62	2.35	1.49	1.46	1.57	1.04	1.01
	EFR-28	1.83	1.79	1.74	1.03	1.29	1.71	1.65	1.46	1.25	1.67	1.78	0.38
	Total Free Product (ft)	9.97	11.41	11.24	6.33	8.44	13.00	7.50	6.64	7.09	9.76	9.71	5.88
	Total Free Product (gal)	6.48	7.42	7.31	4.11	5.49	8.45	4.88	4.32	4.61	6.34	6.31	3.82
West-Central Region of Free Product	EFR-4	2.17	1.75	1.79	0.73	0.10	0.14	0.08	0.05	0.03	0.44	0.99	0.51
	EFR-5	2.52	2.19	2.28	2.68	3.47	6.15	2.65	2.61	2.66	2.66	1.57	1.77
	EFR-6	1.25	1.29	1.38	0.49	0.84	0.88	0.61	1.07	1.16	1.51	0.91	0.15
	EFR-7	0.05	0.20	0.16	0.02	0.04	0.04	0.07	0.02	0.08	0.28	0.05	0.01
	EFR-19	1.95	2.31	2.44	1.83	1.68	0.52	0.44	0.52	1.10	2.05	2.02	0.31
	EFR-22	2.83	2.58	2.27	2.06	0.84	0.34	0.95	1.39	1.93	1.47	1.41	0.17
	EFR-23	1.03	3.07	2.29	1.55	0.91	0.47	0.22	0.25	0.45	2.13	1.03	0.12
	EFR-24	0.03	0.12	0.14	0.38	0.06	0.00	0.00	0.00	0.08	0.08	0.05	0.00
	EFR-25	0.41	1.33	1.58	1.05	1.75	1.19	1.08	0.76	0.54	1.74	1.48	0.21
	EFR-26	1.24	1.08	1.09	0.73	0.55	0.45	0.75	1.29	1.28	1.23	0.72	0.29
	EFR-27	0.54	0.47	0.51	0.09	0.12	0.00	0.00	0.02	0.03	0.17	0.21	0.06
East-Central Region of Free Product	Total Free Product (ft)	14.02	16.39	15.93	11.61	10.36	10.18	6.85	7.98	9.34	13.76	10.44	3.80
	Total Free Product (gal)	9.11	10.65	10.35	7.55	6.73	6.62	4.45	5.19	6.07	8.94	6.79	2.47
Eastern Region of Free Product	EFR-8	0.09	0.07	0.03	0.12	0.00	0.03	0.03	0.03	0.09	0.39	0.27	0.09
	EFR-9	1.31	1.26	1.86	0.74	0.49	0.06	0.11	0.32	0.49	1.16	0.56	0.41
	EFR-10	4.38	3.98	3.99	3.68	5.79	5.52	4.97	4.23	3.71	3.63	2.47	3.02
	EFR-11	4.06	3.65	3.52	2.42	4.69	2.84	2.02	2.48	3.28	2.78	1.57	1.93
	EFR-12	0.15	0.29	0.17	0.04	0.11	0.05	0.02	0.02	0.10	0.30	0.20	0.03
	EFR-13	0.82	1.13	1.30	0.22	1.19	0.15	0.49	0.50	0.44	1.33	1.01	0.74
	Total Free Product (ft)	10.81	10.38	10.87	7.22	12.27	8.65	7.64	7.58	8.11	9.59	6.08	6.22
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)	Total Free Product (gal)	7.03	6.75	7.07	4.69	7.98	5.62	4.97	4.93	5.27	6.23	3.95	4.04
	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04
	EFR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.12	0.12	0.32	0.11	0.07	0.01	0.01	0.00	0.00	0.00	0.13	0.04
Free Products Plume Regions	Total Free Product (gal)	0.08	0.08	0.21	0.07	0.04	0.01	0.01	0.00	0.00	0.00	0.08	0.03

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY
REGIONAL APPARENT FREE PRODUCT TRENDS

THROUGH 4TH QUARTER 2001

EPR Event Date		27-Oct-99	30-Nov-99	16-Dec-99	28-Jan-00	18-Feb-00	24-Mar-00	19-Apr-00	18-May-00	16-Jun-00	18-Jul-00	17-Aug-00	18-Sep-00
Western Region of Free Product	EPR-1	1.63	1.47	1.20	1.22	0.85	1.86	1.59	1.54	2.10	1.51	1.26	1.53
	EPR-2	1.35	1.28	1.40	0.06	1.04	2.25	2.00	1.64	1.89	1.40	0.36	1.08
	EPR-3	0.69	0.47	0.02	0.51	0.07	0.08	0.09	0.62	1.02	0.25	0.02	0.08
	EPR-17	0.06	0.24	0.25	0.11	0.32	0.04	0.16	0.65	0.04	0.01	0.02	0.09
	EPR-18	0.36	0.77	0.05	0.20	0.05	0.12	0.04	0.32	0.01	0.06	0.16	0.08
	EPR-20	1.92	1.36	0.75	1.08	2.58	0.64	0.42	0.54	0.33	0.30	0.39	0.45
	EPR-21	2.32	1.40	1.70	1.92	1.34	3.04	2.86	2.47	3.02	2.09	1.62	2.75
	EPR-28	2.19	0.96	1.42	1.33	1.00	2.30	2.42	1.81	2.68	1.72	2.48	2.02
	Total Free Product (ft)	10.52	7.95	6.79	6.43	7.25	10.33	9.58	9.59	11.09	7.34	6.31	8.08
	Total Free Product (gal)	6.84	5.17	4.41	4.18	4.71	6.71	6.23	6.23	7.21	4.77	4.10	5.25
West-Central Region of Free Product	EPR-4	0.11	0.03	0.58	0.51	0.48	0.11	0.11	0.41	0.22	0.05	0.02	0.02
	EPR-5	3.23	2.99	1.27	2.95	2.46	2.91	2.54	1.84	2.34	1.99	1.69	1.57
	EPR-6	0.86	0.63	0.33	1.07	0.77	0.29	0.31	0.49	0.27	0.54	0.29	0.55
	EPR-7	0.07	0.04	0.47	0.15	0.02	0.35	0.01	0.02	-	-	0.01	-
	EPR-19	1.54	0.84	0.69	1.67	1.73	0.25	0.60	0.98	0.17	0.63	0.34	0.22
	EPR-22	2.22	1.76	0.53	0.82	0.58	0.09	0.16	0.05	0.05	0.01	0.18	0.06
	EPR-23	0.53	0.64	0.24	0.23	0.31	0.46	0.06	0.06	0.01	0.13	0.03	0.07
	EPR-24	0.00	0.04	0.13	0.11	0.07	0.58	0.02	0.03	-	-	-	0.01
	EPR-25	0.39	0.19	0.05	0.31	0.39	0.58	0.21	0.10	0.03	0.10	0.03	0.10
	EPR-26	0.52	0.94	0.59	1.54	1.10	1.33	1.68	2.02	1.44	2.25	1.38	2.01
	EPR-27	0.01	0.01	0.01	0.02	0.14	0.20	0.01	0.03	0.04	0.01	0.01	0.15
	Total Free Product (ft)	9.48	8.11	4.89	9.38	8.05	7.15	5.71	6.03	4.57	5.71	3.98	4.76
	Total Free Product (gal)	6.16	5.27	3.18	6.10	5.23	4.65	3.71	3.92	2.97	3.71	2.59	3.09
East-Central Region of Free Product	EPR-8	0.13	0.05	0.11	0.05	0.06	0.08	0.03	0.05	0.03	0.02	0.01	0.01
	EPR-9	0.28	0.10	0.15	0.13	0.08	0.19	0.02	0.06	0.06	0.12	0.16	0.08
	EPR-10	5.18	3.95	3.07	4.50	3.55	3.50	4.50	1.36	2.50	3.09	0.75	2.76
	EPR-11	3.20	3.11	1.07	3.44	4.95	2.41	2.95	2.93	2.49	4.12	0.79	4.73
	EPR-12	0.09	0.67	0.01	0.03	0.49	0.46	0.10	0.19	0.01	0.01	0.00	0.03
	EPR-13	0.78	0.57	0.26	0.36	0.34	0.48	0.47	0.69	0.55	0.73	0.49	0.22
	Total Free Product (ft)	9.66	8.45	4.67	8.51	9.47	7.12	8.07	5.28	5.64	8.09	2.20	7.83
	Total Free Product (gal)	6.28	5.49	3.04	5.53	6.16	4.63	5.25	3.43	3.67	5.26	1.43	5.09
Eastern Region of Free Product	EPR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EPR-15	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00
	EPR-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.02	0.08	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00
	Total Free Product (gal)	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)		19.29	15.98	10.64	15.82	16.11	16.00	15.20	13.59	13.85	13.74	8.12	13.44

TABLE 2
L.E. CARPENTER - WHARTON, NEW JERSEY
REGIONAL APPARENT FREE PRODUCT TRENDS

EFR Event Date	25-Oct-00	17-Nov-00	15-Dec-00	15-Mar-01	23-Apr-01	25-May-01	13-Jun-01	27-Jul-01	24-Aug-01	25-Sep-01	25-Oct-01	20-Nov-01	31-Dec-01	
Western Region of Free Product	EFR-1	1.00	1.07	1.14	2.91	1.25	1.02	1.14	0.57	0.80	1.29	1.60	1.51	1.57
	EFR-2	0.97	1.09	0.76	2.92	2.66	1.75	2.26	1.22	1.17	1.22	1.14	1.15	1.19
	EFR-3	0.44	0.43	0.46	0.33	0.29	0.49	0.70	0.40	0.66	0.51	0.81	0.76	0.80
	EFR-17	0.06	0.36	0.01	0.41	0.31	0.51	0.28	0.02	0.49	0.34	0.85	0.97	1.57
	EFR-18	0.31	0.31	0.20	3.27	1.35	0.43	0.31	0.01	0.13	0.41	0.69	0.75	1.22
	EFR-20	0.54	0.11	0.37	0.24	0.97	0.52	0.31	0.08	0.32	0.24	0.73	1.10	1.29
	EFR-21	1.79	1.65	1.37	4.09	3.51	2.96	2.61	1.98	1.61	1.87	1.58	1.38	1.54
	EFR-28	1.39	1.36	0.64	2.81	2.75	1.86	2.34	1.36	1.67	1.05	1.50	1.38	1.51
	Total Free Product (ft)	6.50	6.38	4.95	16.98	13.09	9.54	9.95	5.64	6.85	6.93	8.90	9.00	10.69
	Total Free Product (gal)	4.23	4.15	3.22	11.04	8.51	6.20	6.47	3.67	4.45	4.50	5.79	5.85	6.95
West-Central Region of Free Product	EFR-4	0.02	0.05	0.21	0.59	1.65	0.01	0.44	0.02	1.86	0.11	0.57	0.68	0.54
	EFR-5	2.74	2.47	2.76	5.95	1.75	1.90	0.62	2.24	2.05	2.25	2.55	2.10	2.67
	EFR-6	0.83	0.79	0.96	2.05	0.32	0.43	0.16	0.46	0.49	0.37	1.13	1.56	1.23
	EFR-7	0.01	0.01	0.01	0.28	0.02	0.02	0.00	0.00	0.16	0.00	0.05	0.08	0.24
	EFR-19	0.87	0.59	1.42	2.32	0.65	1.98	1.01	0.44	1.19	0.54	2.15	2.36	2.38
	EFR-22	0.53	2.14	1.50	0.81	0.06	0.43	0.00	0.00	0.47	0.57	1.22	1.53	1.93
	EFR-23	0.07	0.08	0.39	0.07	0.03	0.88	0.28	0.05	0.34	0.07	0.85	2.67	0.75
	EFR-24	0.01	0.01	0.04	2.27	0.05	0.34	0.01	0.01	0.27	0.14	0.35	0.38	0.34
	EFR-25	0.19	0.12	0.10	0.04	0.39	0.28	0.14	0.03	0.47	0.09	0.43	0.63	0.64
	EFR-26	2.05	1.78	1.10	2.64	2.56	2.68	1.48	2.24	1.07	1.20	1.45	1.22	1.13
	EFR-27	0.01	0.01	0.01	0.48	0.05	0.04	0.00	0.01	0.04	0.00	0.52	0.49	0.13
	Total Free Product (ft)	7.33	8.05	8.50	17.50	7.53	8.99	4.14	5.50	8.41	5.34	11.27	13.70	11.98
	Total Free Product (gal)	4.76	5.23	5.53	11.38	4.89	5.84	2.69	3.58	5.47	3.47	7.33	8.91	7.79
East-Central Region of Free Product	EFR-8	0.16	0.02	0.06	0.03	0.05	0.04	0.03	0.01	0.18	0.00	0.18	0.16	0.22
	EFR-9	0.02	0.50	0.77	0.57	0.07	0.56	0.07	0.14	0.27	0.39	0.56	0.85	0.32
	EFR-10	3.88	3.27	4.05	5.64	3.17	3.52	3.32	3.73	2.30	2.62	2.70	2.61	2.91
	EFR-11	4.26	4.00	3.73	2.82	2.41	3.56	2.60	3.91	2.37	3.86	3.22	2.44	2.90
	EFR-12	0.11	0.04	0.02	0.07	0.02	0.25	0.01	0.01	0.23	0.00	0.00	0.34	0.21
	EFR-13	0.25	0.09	0.15	1.14	0.27	0.78	0.26	0.39	0.47	0.38	0.46	0.88	0.44
	Total Free Product (ft)	8.68	7.92	8.78	10.27	5.99	8.71	6.29	8.19	5.82	7.25	7.12	7.28	7.00
	Total Free Product (gal)	5.64	5.15	5.71	6.68	3.89	5.66	4.09	5.32	3.78	4.71	4.63	4.73	4.55
Eastern Region of Free Product	EFR-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EFR-15	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
	EFR-16	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Free Product (ft)	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
	Total Free Product (gal)	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
TOTAL APPARENT FREE PRODUCT VOLUME (GAL)		14.63	14.53	14.45	29.09	17.30	17.71	13.25	12.56	13.70	12.69	17.74	19.51	19.29

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR #47

DATE

25-Oct-01

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT THICKNESS (ft)
EFR-1	11.99	13.59	1.60
EFR-2	12.61	13.75	1.14
EFR-3	12.4	13.21	0.81
EFR-4	14.04	14.61	0.57
EFR-5	12.29	14.84	2.55
EFR-6	11.91	13.04	1.13
EFR-7	8.84	8.89	0.05
EFR-8	7.86	8.04	0.18
EFR-9	8.14	8.7	0.56
EFR-10	8.82	11.52	2.70
EFR-11	8.37	11.59	3.22
EFR-12	7.41	7.41	0.00
EFR-13	6.51	6.97	0.46
EFR-14	6.73	6.73	0.00
EFR-15	6.09	6.09	0.00
EFR-16	6.63	6.63	0.00
EFR-17	11.36	12.21	0.85
EFR-18	11.32	12.01	0.69
EFR-19	14.19	16.34	2.15
EFR-20	12.49	13.22	0.73
EFR-21	10.9	12.48	1.58
EFR-22	14.31	15.53	1.22
EFR-23	10.55	11.4	0.85
EFR-24	13.69	14.04	0.35
EFR-25	13.39	13.82	0.43
EFR-26	15.07	16.52	1.45
EFR-27	13.71	14.23	0.52
EFR-28	11.41	12.91	1.50

Total Volume
Of Free
Standing
Product (gal) **17.74**

CEMCO FIELD TECHNICIAN: Gary Pizzuti

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #47

25-Oct-01

ANALYST ID	EXTRACTION TIME		VAPOR-PHASE CONCENTRATION		SYSTEM/RECOVERY DATA			
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-2	7.0	0.1167	6,560	100	17	100	32.01	3.7350
EFR-3	7.0	0.1167	6,560	100	17	100	32.01	3.7350
EFR-4	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-5	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-6	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-7	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-8	3.0	0.0500	525	8	17	100	2.56	0.1281
EFR-9	2.0	0.0333	1,443	22	17	100	7.04	0.2348
EFR-10	7.0	0.1167	6,560	100	17	100	32.01	3.7350
EFR-11	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-12	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-13	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-18	3.0	0.0500	6,560	100	17	100	32.01	1.6007
EFR-19	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-20	3.0	0.0500	6,560	100	17	100	32.01	1.6007
EFR-21	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-22	2.0	0.0333	6,560	100	17	100	32.01	1.0671
EFR-23	3.0	0.0500	6,560	100	17	100	32.01	1.6007
EFR-24	4.0	0.0667	0	100	17	100	0.00	0.0000
EFR-25	2.0	0.0333	6,560	100	17	100	32.01	1.0671
EFR-26	4.0	0.0667	6,560	100	17	100	32.01	2.1343
EFR-27	3.0	0.0500	6,560	100	17	100	32.01	1.6007
EFR-28	5.0	0.0833	6,560	100	17	100	32.01	2.6679
Total EFR Time (hrs)	1.6667	Avg ppm	4860.36				TOTAL (LBS)	48.9178
							TOTAL VAPOR PHASE VOLUME (GAL)	6.2645

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations
in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-85 & WP-84)
Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

Where:
 ppm = Parts per Million by Volume
 Flow = Cubic feet per minute (CFM) 350
 Molar Mass (MM) = Molecular Weight (lb/lb-mole) 292 (2)
 IGC = Ideal Gas Constant (359 ft³/lb-mole) 359
 LEL = Free Product Mixture = 0.656 (1)
 SC = Specific Gravity = 0.9363 (3)

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-85 & WP-84)

Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2

(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

$$\text{Pounds/Hr (lbs/hr)} = (\text{ppm} \times (60 \text{ min/hr}) \times (\text{CFM} \times (\text{MM})) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	13.50
Groundwater Thickness (in)	1.75
Conversion @ 1.65 gal/inch	1.65
Total Product Volume (gal)	22.28
Total Groundwater Volume (gal)	2.89
Ratio Groundwater to Free Product (gal/gal)	0.13

	Y (gal)
Total Recovered Groundwater Volume (gal)	2.89
Total Recovered Free Product Volume (gal)	22.28
Total Recovered Fluids Volume (gal)	25.16
TOTAL EFR PRODUCT VOLUME	28.54 GAL

Date	25-Oct-01
Project #	3868.24
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

CEMCO Field Technician Gary Pizzuti

RMT Project Manager Nick Clevett

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR #48

DATE

20-Nov-01

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT THICKNESS (ft)
EFR-1	12.43	13.94	1.51
EFR-2	13.04	14.19	1.15
EFR-3	13.01	13.77	0.76
EFR-4	14.51	15.19	0.68
EFR-5	12.83	14.93	2.10
EFR-6	12.38	13.94	1.56
EFR-7	9.31	9.39	0.08
EFR-8	8.31	8.47	0.16
EFR-9	8.61	9.46	0.85
EFR-10	9.3	11.91	2.61
EFR-11	8.89	11.33	2.44
EFR-12	7.86	8.2	0.34
EFR-13	7	7.88	0.88
EFR-14	7.23	7.23	0.00
EFR-15	6.59	6.62	0.03
EFR-16	7.12	7.12	0.00
EFR-17	11.84	12.81	0.97
EFR-18	11.83	12.58	0.75
EFR-19	14.67	17.03	2.36
EFR-20	12.9	14	1.10
EFR-21	11.33	12.71	1.38
EFR-22	14.76	16.29	1.53
EFR-23	11.04	13.71	2.67
EFR-24	14.16	14.54	0.38
EFR-25	13.86	14.49	0.63
EFR-26	15.53	16.75	1.22
EFR-27	14.15	14.64	0.49
EFR-28	11.91	13.29	1.38

Total Volume
Of Free
Standing
Product (gal) **19.51**

CEMCO FIELD TECHNICIAN: Gary Pizzuti

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

**MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG**

EFR #48

20-Nov-01

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION		SYSTEM RECOVERY DATA			TOTAL lbs
	TOTAL TIME (min)	TOTAL TIME (hr)	PPM	LEL (%)	VACUUM in Hg	CFM	Ibs/hr	
EFR-1	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-2	3.0	0.0500	6,560	100	17	100	32.01	1.6007
EFR-3	0.5	0.0083	6,560	100	17	100	32.01	0.2668
EFR-4	7.0	0.1167	6,560	100	17	100	32.01	3.7350
EFR-5	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-6	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-7	3.0	0.0500	131	2	17	100	0.64	0.0320
EFR-8	3.0	0.0500	656	10	17	100	3.20	0.1601
EFR-9	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-10	9.0	0.1500	6,560	100	17	100	32.01	4.8021
EFR-11	8.0	0.1333	6,560	100	17	100	32.01	4.2686
EFR-12	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-13	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-18	4.0	0.0667	6,560	100	17	100	32.01	2.1343
EFR-19	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-20	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-21	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-22	10.0	0.1667	6,560	100	17	100	32.01	5.3357
EFR-23	5.0	0.0833	6,560	100	17	100	32.01	2.6679
EFR-24	2.0	0.0333	0	100	17	100	0.00	0.0000
EFR-25	7.0	0.1167	6,560	100	17	100	32.01	3.7350
EFR-26	6.0	0.1000	6,560	100	17	100	32.01	3.2014
EFR-27	2.0	0.0333	6,560	100	17	100	32.01	1.0671
EFR-28	5.0	0.0833	6,560	100	17	100	32.01	2.6679
Total EFR Time (hr)	2.0750	Avg ppm	5104.87					TOTAL (LBS)
								62.3531
							TOTAL VAPOR PHASE VOLUME (GAL)	7.9850

Where:

ppm =	Parts per Million by Volume
Flow =	Cubic feet per minute (CFM) = 350
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) = 292 (2)
IGC =	Ideal Gas Constant (359 ft ³ /lb-mole) = 359
LEL =	Free Product Mixture = 0.656 (1)
SG =	Specific Gravity = 0.9363 (3)

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)

(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4). Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

(2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-B5 & WP-B4). Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2

(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999 @ MW-1R; EFR-11 & WP-A8)

$$\text{Pounds/Hr (lbs/hr)} = (\text{ppm} \times (60 \text{ min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	14.00
Groundwater Thickness (in)	2.00
Conversion @ 1.65 gal/inch	1.65
Total Product Volume (gal)	23.10
Total Groundwater Volume (gal)	3.30
Ratio Groundwater to Free Product (gal/gal)	0.14

	Y (gal)
Total Recovered Groundwater Volume (gal)	3.30
Total Recovered Free Product Volume (gal)	23.10
Total Recovered Fluids Volume (gal)	26.40
TOTAL EFR PRODUCT VOLUME	31.09 GAL

Date	20-Nov-01
Project #	3868.24
Subcontractor	CEMCO
Vac Head Utilized	NORTech Corp. 551B

CEMCO Field Technician Gary Pizzuti

RMT Project Manager Nick Clevett

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR WELL GAUGING LOG

EFR #49

DATE

31-Dec-01

WELL ID	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (ft)	PRODUCT TICKNESS (ft)
EFR-1	12.04	13.61	1.57
EFR-2	12.63	13.82	1.19
EFR-3	12.44	13.24	0.80
EFR-4	14.07	14.61	0.54
EFR-5	12.31	14.98	2.67
EFR-6	11.88	13.11	1.23
EFR-7	7.76	8	0.24
EFR-8	7.84	8.06	0.22
EFR-9	8.09	8.41	0.32
EFR-10	8.79	11.7	2.91
EFR-11	8.39	11.29	2.90
EFR-12	7.49	7.7	0.21
EFR-13	6.54	6.98	0.44
EFR-14	6.74	6.74	0.00
EFR-15	6.06	6.06	0.00
EFR-16	6.58	6.58	0.00
EFR-17	11.41	12.98	1.57
EFR-18	11.32	12.54	1.22
EFR-19	14.21	16.59	2.38
EFR-20	12.4	13.69	1.29
EFR-21	10.98	12.52	1.54
EFR-22	14.21	16.14	1.93
EFR-23	10.44	11.19	0.75
EFR-24	13.69	14.03	0.34
EFR-25	13.42	14.06	0.64
EFR-26	15.06	16.19	1.13
EFR-27	13.68	13.81	0.13
EFR-28	11.39	12.9	1.51

Total Volume
Of Free
Standing
Product (gal) 19.29

CEMCO FIELD TECHNICIAN: Gary Pizzuti

TABLE 3
L. E. CARPENTER - WHARTON, NEW JERSEY

MONTHLY EFR
VAPOR AND LIQUID PHASE VOLUMETRIC CALCULATION LOG

EFR #49

31-Dec-01

WELL ID	EXTRACTION TIME		VAPOR PHASE CONCENTRATION			SYSTEM RECOVERY DATA		
	TOTAL TIME (min)	TOTAL TIME (hrs)	PPM	LEL (%)	VACUUM In Hg	CFM	lbs/hr	Total lbs
EFR-1	8.0	0.1333	6,560	100	17	100	32.01	4,2686
EFR-2	7.0	0.1167	6,560	100	17	100	32.01	3,7350
EFR-3	5.0	0.0833	6,560	100	17	100	32.01	2,6679
EFR-4	4.0	0.0667	6,560	100	17	100	32.01	2,1343
EFR-5	10.0	0.1667	6,560	100	17	100	32.01	5,3357
EFR-6	10.0	0.1667	6,560	100	17	100	32.01	5,3357
EFR-7	5.0	0.0833	2,624	40	17	100	12.81	1,0671
EFR-8	5.0	0.0833	2,296	35	17	100	11.20	0.9337
EFR-9	5.0	0.0833	656	10	17	100	3.20	0.2668
EFR-10	10.0	0.1667	6,560	100	17	100	32.01	5,3357
EFR-11	8.0	0.1333	6,560	100	17	100	32.01	4,2686
EFR-12	5.0	0.0833	656	10	17	100	3.20	0.2668
EFR-13	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-14	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-15	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-16	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-17	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-18	7.0	0.1167	6,560	100	17	100	32.01	3,7350
EFR-19	5.0	0.0833	6,560	100	17	100	32.01	2,6679
EFR-20	10.0	0.1667	6,560	100	17	100	32.01	5,3357
EFR-21	0.0	0.0000	0	0	17	100	0.00	0.0000
EFR-22	7.0	0.1167	6,560	100	17	100	32.01	3,7350
EFR-23	5.0	0.0833	6,560	100	17	100	32.01	2,6679
EFR-24	5.0	0.0833	0	100	17	100	0.00	0.0000
EFR-25	5.0	0.0833	6,560	100	17	100	32.01	2,6679
EFR-26	4.0	0.0667	6,560	100	17	100	32.01	2,1343
EFR-27	3.0	0.0500	6,560	100	17	100	32.01	1,6007
EFR-28	3.0	0.0500	6,560	100	17	100	32.01	1,6007
Total EFR Time (hrs)	2.2667	Avg ppm	5024.36				TOTAL (LBS)	61,7608

Where:

ppm =	Parts per Million by Volume
Flow =	Cubic feet per minute (CFM) 350
Molar Mass (MM) =	Molecular Weight (lb/lb-mole) 292
IGC =	Ideal Gas Constant (359 ft ³ /lb-mole) 359
LEL =	Free Product Mixture 0.656
SG =	Specific Gravity 0.9363

NOTE PPM = (% LEL on Meter) x (LEL of Product Mixture) x (1,000,000)
(1) Weighted LEL for analyte mixture @ 0.656% (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-85 & WP-84) Analyte LELs: DEHP @ 0.3%; Ethylbenzene @ 1%; Xylenes @ 1.1%

NOTE (2) Avg. Molar Mass @ 292 (based on DEHP, Ethylbenzene & Total Xylene concentrations in Roy F. Weston product sampling conducted on Feb 27, 1995 @ MW-1R; MW-11S; MW-6R; WP-85 & WP-84) Individual Analyte Molar Mass: DEHP @ 390.54; Ethylbenzene @ 106.2; Total Xylenes @ 106.2
(3) Average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1995 @ MW-1R; EFR-11 & WP-84)

$$\text{Pounds/Hr (lbs/hr)} = (\text{ppm} \times (60 \text{ min/hr}) \times (\text{CFM}) \times (\text{MM})) / ((1 \times 10^6) \times (359 \text{ ft}^3/\text{lb-mole}))$$

Free Product & Groundwater Gauging (55-Gal Drum)	
Product Thickness (in)	13.00
Groundwater Thickness (in)	1.50
Conversion @ 1.65 gal/inch	1.65
Total Product Volume (gal)	21.45
Total Groundwater Volume (gal)	2.48
Ratio Groundwater to Free Product (gal/gal)	0.12

	Y (gal)
Total Recovered Groundwater Volume (gal)	2.48
Total Recovered Free Product Volume (gal)	21.45
Total Recovered Fluids Volume (gal)	23.93
TOTAL EFR PRODUCT VOLUME	29.36 GAL

Date	31-Dec-01
Project #	386824
Subcontractor	CEMCO
Vac Head Utilized	NORTECH Corp. 551B

CEMCO Field Technician Gary Pizzuti
RMT Project Manager Nick Clevett

TABLE 4
L.E. CARPENTER - WHARTON, NEW JERSEY
QUARTERLY MONITORING PROTOCOL

Monitoring Well	Bottom of Well (ft)	Analytical Parameters	Rational	Comments
MW-14I	40.96', 2"	BTEX ⁽¹⁾ DEHP ⁽²⁾	Analytical results will identify the migration of the dissolved groundwater plume in the Intermediate Aquifer Zone downgradient of the site (Wharton Enterprise property)	Original Monitoring Well
MW-15S	17.47', 4"	BTEX ⁽¹⁾ DEHP ⁽²⁾	Analytical results will identify if the dissolved groundwater plume is migrating through this portion of the shallow aquifer zone (on the rail spur right-of-way)	Original Monitoring Well
MW-15I	38.34', 2"	BTEX ⁽¹⁾ DEHP ⁽²⁾	Analytical results will identify the migration of the dissolved groundwater plume through the Intermediate Aquifer Zone in the area (on rail spur right-of-way)	Original Monitoring Well
MW-22R	11', 2"	BTEX ⁽¹⁾ DEHP ⁽³⁾	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site (Wharton Enterprise property).	Original Monitoring Well. Beginning in 2nd quarter 2001, well will be analyzed for DEHP quarterly vs. semiannually
MW-25R	11', 2"	BTEX ⁽¹⁾ DEHP ⁽¹⁾	Analytical results will identify the movement of the dissolved groundwater plume in the shallow aquifer zone downgradient of the site. East of MW-22R (Wharton Enterprise property).	DEHP sampling required quarterly as opposed to semi annually per Nov 23, 1998 NJDEP Letter.
MW-17S ⁽³⁾	13.4', 4"	BTEX DEHP	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone.	Original Monitoring Well
MW-4	27', 2"	BTEX ⁽¹⁾ DEHP ⁽²⁾	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone (south portion of subject site, bordering on the Rockaway River)	Original Monitoring Well
MW-11D(R)	161'	DEHP ⁽¹⁾	Analytical results from this well identify potential contamination of deep aquifer. This well lies in the center of the free product plume.	New well added to monitoring protocol as of May 21, 1999 NJDEP Letter (review of 1st quarter 1999 monitoring report). Well exhibited DEHP contamination potentially as the result of draw down during well installation. Well will be sampled for both monitoring program parameters (BTEX & DEHP) per NJDEP letter dated Aug 17, 1999. As of 4th Quarter 2000 (1 year of BTEX and DEHP sampling), approval was requested from NJDEP and USEPA to remove this well from the quarterly sampling program. NJDEP response letter dated April 5, 2001 following review of the 4th Quarter 2000 monitoring report requested that MW-11D(R) be sampled quarterly for DEHP ONLY.
MW-21	15.0'	BTEX ⁽¹⁾ DEHP ⁽¹⁾	Analytical results from this well will also identify "background" conditions at the site in the shallow aquifer zone. Additionally, data from this well is used to track the potential migratory trend from MW-25 (Eastern most portion of the subject site)	New well added to monitoring protocol as of Nov 23, 1998 NJDEP Letter.

NOTES

- (1) Parameter analysed every quarter
- (2) Parameter analysed 2nd and 4th quarter ONLY.
- (3) Well sampled 2nd and 4th quarter ONLY.

S: Shallow Hydrogeologic Unit
I: Intermediate Hydrogeologic Unit
D: Deep Hydrogeologic Unit
R: Replacement well

QA/QC PROTOCOL

- One (1) field blank will be collected for each parameter per each event (an additional 8 samples - 4 BTEX and 4 DEHP)
- One (1) trip blank will be collected, alternating parameters per each event (an additional 4 samples - 2 BTEX and 2 DEHP)
- One (1) duplicate sample will be collected from alternating wells and analyzed for alternating parameters (2 BTEX and 2 DEHP)

FIELD ANALYSIS

All quarterly monitoring wells will be field tested for pH, temperature, specific conductivity, dissolved oxygen, and redox potential. Redox potential added to field analysis 1st quarter 2001 to incorporate into RNA initiatives

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)		1	700		1,000	40	30					
MW-4	1995	1	ND	26	ND	32	25,000	NO	NO	NO	NO	YES
		2	ND	16	ND	13	46,000	NO	NO	NO	NO	YES
		3	ND	9.7	ND	8.7	NS	NO	NO	NO	NO	-
		4	ND	8.8	ND	11	17,000	NO	NO	NO	NO	YES
	1996	1	ND	24	ND	47	NS	NO	NO	NO	NO	YES
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	ND	6.8	ND	4.3	NS	NO	NO	NO	NO	-
		4	ND	2.3	ND	ND	11,000	NO	NO	NO	NO	YES
	1997	1	ND	3.5	ND	1.8	NS	NO	NO	NO	NO	-
		2	ND	1.2	ND	4.2	120	NO	NO	NO	NO	YES
		3	ND	2.2	ND	12.6	NS	NO	NO	NO	NO	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	1.0	ND	1.4	710	NO	NO	NO	NO	YES
		3	ND	1.9	ND	1.2	NS	NO	NO	NO	NO	-
		4	ND	9.3	ND	3.3	650	NO	NO	NO	NO	YES
	1999	1	ND	1.1	ND	2.5	NS	NO	NO	NO	NO	-
		2	ND	0.66	ND	ND	3,000	NO	NO	NO	NO	YES
		2 duplicates	ND	0.43	ND	ND	4,400	NO	NO	NO	NO	YES
		3	ND	3.10	ND	2.9	NS	NO	NO	NO	NO	-
		4	ND	0.51	ND	ND	4,000	NO	NO	NO	NO	YES
	2000	1	ND	0.54	ND	1.6	NS	NO	NO	NO	NO	-
		2	ND	0.3	ND	ND	480	NO	NO	NO	NO	YES
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	0.41	210	NO	NO	NO	NO	YES
		4 duplicates	ND	ND	ND	0.33	NS	NO	NO	NO	NO	-
	2001	1	ND	1	ND	3.7	NS	NO	NO	NO	NO	-
DEHP found in lab blank		2	ND	0.31	ND	0.41	300	NO	NO	NO	NO	YES
		3	ND	0.52	ND	2.5	NS	NO	NO	NO	NO	-
		4	ND	0.33	ND	0.77	3300	NO	NO	NO	NO	YES

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?					
	YEAR	QUARTER	Benzene	Ethybenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethybenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	
			ug/l	ug/l	ug/l	ug/l	ug/l						
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30						
MW-11(DR) ⁽²⁾⁽³⁾	1999	1	ND	ND	ND	ND	64	NO	NO	NO	NO	NO	YES
		1 ^{duplicate}	ND	ND	ND	ND	20	NO	NO	NO	NO	NO	NO
		2	NS	NS	NS	NS	NS	—	—	—	—	—	—
		3 ⁽⁴⁾	NS	NS	NS	NS	59	—	—	—	—	—	YES
		3 ^{duplicate}	NS	NS	NS	NS	13	—	—	—	—	—	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	Field ID: MW-11DD	2 ^{duplicate}	ND	ND	ND	ND	NR	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	3.4	NO	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	0.8	NO	NO	NO	NO	NO	NO
DEHP found in lab blank	Field ID: MW-11DD	1 ^{duplicate}	NS	NS	NS	NS	0.9	—	—	—	—	—	NO
DEHP found in lab blank		2	NS	NS	NS	NS	1.5	—	—	—	—	—	NO
		3	NS	NS	NS	NS	ND	—	—	—	—	—	NO
		4	NS	NS	NS	NS	0.6	—	—	—	—	—	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)		1	700		1,000	40	30					
MW-14I	1995	1	ND	0.4	ND	1.2	140	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.6	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO
		3	1.2	22.1	ND	176	NS	YES	NO	NO	YES	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	0.34	ND	2	24	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	2.4	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	3.5	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO
DHHP found in lab blank												
Field ID MW-14Id		2 ^{duplicate}	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30	ug/l	ug/l	ug/l	ug/l	ug/l
MW-15S	1995	1	ND	ND	ND	ND	2.4	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1996	1	ND	33	ND	83	NS	NO	NO	NO	YES	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	0.21	ND	1.7	ND	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.2	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-
	1998	1	ND	ND	1.4	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	1.3	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
DEHP found in lab blank		2	ND	ND	ND	ND	0.8	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS						ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	
			ug/l	ug/l	ug/l	ug/l	ug/l						
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)		1	700		1,000	40	30						
MW-15I	1995	1	ND	ND	ND	ND	250	NO	NO	NO	NO	NO	YES
		2	ND	ND	ND	ND	7.2	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	2.8	NO	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	1.7	NO	NO	NO	NO	NO	NO
		⁴ duplicate	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	2.2	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	NO
		² duplicate	ND	ND	ND	ND	3.8	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	0.53	11	NO	NO	NO	NO	NO	NO
		⁴ duplicate	ND	0.2	ND	0.8	9.8	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	4.8	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	2001	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
^{DEHP found in lab blank}		2	ND	ND	ND	ND	1.2	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)		1	700		1,000	40	30					
MW-17S (4)	1995	1	ND	0.6	0.3	1.9	11	NO	NO	NO	NO	NO
<i>Well sampled 2nd and 4th Quarters only</i>		2	0.2	ND	0.18	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	-	-	-	-	-
		4	ND	ND	ND	0.63	ND	NO	NO	NO	NO	NO
	1996	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-
		3	NS	NS	NS	NS	NS	-	-	-	-	-
		4	ND	ND	ND	ND	1.5	NO	NO	NO	NO	NO
	1997	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	-
		3	NS	NS	NS	NS	NS	-	-	-	-	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-
	1998	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	ND	ND	ND	1.2	6.1	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	-	-	-	-	-
		4	ND	ND	ND	ND	6	NO	NO	NO	NO	NO
	1999	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	-	-	-	-	-
		4	ND	ND	ND	ND	40	NO	NO	NO	NO	YES
	2000	1	NS	NS	NS	NS	NS	-	-	-	-	-
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	NS	NS	NS	NS	NS	-	-	-	-	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
<i>DEHP found in lab blank</i>	2001	2	ND	ND	ND	ND	1.8	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	9.6	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l					
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30					
MW-21 ⁽¹⁾	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	6	NO	NO	NO	NO	NO
		1 ^{duplicate}	NS	NS	NS	NS	ND	-	-	-	-	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
DEHP found in lab blank	2001	1	ND	ND	ND	ND	2.7	NO	NO	NO	NO	NO
DEHP found in lab blank		2	ND	ND	ND	ND	0.9	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	0.9	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	0.6	NO	NO	NO	NO	NO

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS						ABOVE NJGWQS?					
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)		
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30							
MW-22(R)	1995	1	ND	57	ND	260	6,500	NO	NO	NO	YES	YES		
		2	ND	311	ND	955	380	NO	NO	NO	YES	YES		
		3	ND	171	ND	693	NS	NO	NO	NO	YES	—		
		4	ND	123	ND	494	320	NO	NO	NO	YES	YES		
1996	1996	1	NS	NS	NS	NS	NS	—	—	—	—	—		
		2	NS	NS	NS	NS	NS	—	—	—	—	—		
		3	ND	359	ND	1,320	NS	NO	NO	NO	YES	—		
		4	ND	320	ND	1,330	ND	NO	NO	NO	YES	NO		
1997	1997	1	NS	NS	NS	NS	NS	—	—	—	—	—		
		2	ND	5,730	ND	32,900	7,500	NO	YES	NO	YES	YES		
		3	ND	11,400	348	66,000	NS	NO	YES	NO	YES	—		
		4	NS	NS	NS	NS	NS	—	—	—	—	—		
1998	1998	1	ND	4,070	348	20,600	NS	NO	YES	NO	YES	—		
		2	ND	2,260	ND	11,300	5,800	NO	YES	NO	YES	YES		
		3	ND	—ND	ND	ND	NS	NO	NO	NO	NO	—		
		3 ^{duplicate}	ND	2,510	ND	11,000	NS	NO	YES	NO	YES	—		
1999	1999	4	ND	1,650	ND	7,230	1,100	NO	YES	NO	YES	YES		
		1	ND	18	ND	84	NS	NO	NO	NO	YES	—		
		2	ND	1,600	ND	7,600	670	NO	YES	NO	YES	YES		
		3	ND	1,200	42	5,200	NS	NO	YES	NO	YES	—		
2000	2000	4	ND	810	ND	3,300	1200	NO	YES	NO	YES	YES		
		4 ^{duplicate}	ND	840	ND	3,400	1600	NO	YES	NO	YES	YES		
		1	ND	360	ND	1,400	NS	NO	NO	NO	YES	—		
		2	ND	820	ND	3,600	92	NO	YES	NO	YES	YES		
Dilution Factor 50		3	ND	1,000	ND	4,800	NS	NO	YES	NO	YES	—		
Dilution Factor 200		4	ND	1,200	ND	6,200	5,100	NO	YES	NO	YES	YES		
Dilution Factor 50 and 250 for DEHP and BYEP respectively.		2001	1	ND	1,900	ND	9,000	NS	NO	YES	NO	YES	—	
Dilution Factor 20 and 100 for DEHP and BYEP respectively. DEHP found in lab blank.		2	ND	910	ND	4,100	2,400	NO	YES	NO	YES	YES		
Dilution Factor 100 for BYEP, 50 for DEHP. DEHP detected in field blank.		3	ND	1,100	ND	5,300	8,200	NO	YES	NO	YES	YES		
		4	ND	980	ND	4,700	15,000	NO	YES	NO	YES	YES		
		4 ^{duplicate}	ND	1,000	ND	4,900	NS	NO	YES	NO	YES	—		

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?					
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	
			ug/l	ug/l	ug/l	ug/l	ug/l						
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30						
MW-25(R)	1995	1	NS	NS	NS	NS	NS	-	-	-	-	-	-
		2	ND	ND	ND	ND	1.6	NO	NO	NO	NO	NO	
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-	
		4	ND	ND	ND	ND	68	NO	NO	NO	NO	YES	
	1996	1	NS	NS	NS	NS	NS	-	-	-	-	-	
		2	NS	NS	NS	NS	NS	-	-	-	-	-	
		3	ND	0.34	ND	2.2	NS	NO	NO	NO	NO	-	
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	-	
		2	ND	13.5	ND	89	63	NO	NO	NO	NO	YES	YES
		3	ND	4.1	ND	30.7	NS	NO	NO	NO	NO	-	
		4	NS	NS	NS	NS	NS	-	-	-	-	-	
	1998	1	ND	0.33	ND	1.5	NS	NO	NO	NO	NO	-	
		1 ^{duplicate}	ND	0.39	ND	0.94	NS	NO	NO	NO	NO	-	
		2	ND	ND	ND	ND	5.3	NO	NO	NO	NO	NO	
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	-	
		4	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		2	ND	ND	ND	14	ND	NO	NO	NO	NO	NO	
		3	ND	0.39	ND	1.4	9.6	NO	NO	NO	NO	NO	
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	
	Field ID: MW-25D	3 ^{duplicate}	NS	NS	NS	NS	ND	-	-	-	-	NO	
		4	ND	0.33	ND	1.1	3.4	NO	NO	NO	NO	NO	
DEHP found in lab blank	2001	1	ND	ND	ND	ND	1.9	NO	NO	NO	NO	NO	
DEHP found in lab blank		2	ND	ND	ND	ND	1.4	NO	NO	NO	NO	NO	
		3	ND	ND	ND	ND	0.5	NO	NO	NO	NO	NO	
	Field ID: MW-25D	3 ^{duplicate}	NS	NS	NS	NS	1.2	-	-	-	-	NO	
		4	ND	ND	ND	ND	0.7	NO	NO	NO	NO	NO	

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS					ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	706	1,000	40	30					
Trip Blank	1995	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	NS	NS	NS	NS	NS	—	—	—	—	—
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
	1997	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	NS	NS	NS	NS	NS	—	—	—	—	—
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		4	ND	ND	ND	NS	1.3	NO	NO	NO	—	NO
	1999	1	ND	ND	ND	NS	ND	NO	NO	NO	—	NO
		2	ND	ND	ND	NS	ND	NO	NO	NO	—	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
	2000	1	NS	NS	NS	NS	ND	—	—	—	—	NO
		1	NS	NS	NS	NS	ND	—	—	—	—	NO
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
		3	NS	NS	NS	NS	ND	—	—	—	—	NO
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
DEHP found in lab blank	2001	1	NS	NS	NS	NS	0.6	—	—	—	—	NO
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	—
Performed for Lab No. N067 (MW22R DEHP sample). STL forgot to sample DEHP at this well on first round.		3	NS	NS	NS	NS	ND	—	—	—	—	NO
		3	NS	NS	NS	NS	ND	—	—	—	—	NO
		4	ND	ND	ND	ND	NS	NO	NO	NO	NO	—

TABLE 5
L.E. CARPENTER - Wharton, New Jersey
Quarterly Groundwater Monitoring Data

MONITORING WELLS	SAMPLING DATE		CHEMICAL ANALYSIS RESULTS						ABOVE NJGWQS?				
	YEAR	QUARTER	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	Benzene	Ethylbenzene	Toluene	Total Xylenes	bis-2-Ethylhexylphthalate (DEHP)	
			ug/l	ug/l	ug/l	ug/l	ug/l						
NEW JERSEY GROUNDWATER QUALITY STANDARDS (NJGWQS)			1	700	1,000	40	30						
Field Blank	1995	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		2	ND	0.73	ND	ND	1.3	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	1996	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	NS	NS	NS	NS	NS	-	-	-	-	-	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	1997	1	ND	ND	0.2	ND	NS	NO	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	NS	NS	NS	NS	NS	-	-	-	-	-	-
	1998	1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		2	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		3	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		4	ND	ND	ND	ND	1.3	NO	NO	NO	NO	NO	NO
	1999	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	2000	1	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		1	ND	ND	ND	ND	NS	NO	NO	NO	NO	NO	-
		1	NS	NS	NS	NS	3.2	-	-	-	-	-	NO
		2	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
		4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO	NO
	DEHP found in lab blank	2001	1	ND	ND	ND	ND	1.3	NO	NO	NO	NO	NO
	DEHP found in lab blank		2	ND	ND	ND	ND	2	NO	NO	NO	NO	NO
Performed for Lab No. N067 (MW-21R DEHP sample). STL forgot to sample DEHP at this well on first round.			3	NS	NS	NS	NS	1.2	-	-	-	-	NO
			3	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO
			4	ND	ND	ND	ND	ND	NO	NO	NO	NO	NO

LEGEND

mg/l = micrograms per liter

NJGWQS = New Jersey Groundwater Quality Standards

ROD: Record of Decision

NA = Not Applicable

NS = Not Sampled

ND = No Detection

DUPL = Duplicate sample

NR = Not Run

Values in **BOLD FONT** are above BOTH the NJDEP NJGWQS and the ROD Discharge Criteria

- Used when comparison against known standards does not apply as the well was not sampled (NS)

Sampling Notes:

(1) MW-21 Quarterly sampling required for both DEHP and BTEX as of NJDEP letter dated Nov 23, 1998

(2) MW-11(R) & MW-11(DR) sampled for both DEHP and BTEX per NJDEP letter dated Nov 23, 1998 (one time sample round- baseline concentration)

(3) MW-11(D) required to be sampled quarterly per NJDEP letter dated August 17, 1999. Third quarter 1999 sampling was performed

prior to receiving the NJDEP letter. Subsequently, the well was only sampled for DEHP. Starting 4th quarter 1999, MW-11(D) will be sampled for both DEHP and BTEX. Based on NJDEP letter dated April 5, 2001, this well will be sampled for DEHP only (starting 2nd qtr 2001)

(4) Well sampled Biannually - 2nd and 4th Quarter Only as of the beginning of 1998

TABLE 6
L.E. Carpenter and Company, Wharton, New Jersey
Groundwater Elevations

WELL	WELL TYPE	WELL INSTALLATION AND CONSTRUCTION INFORMATION ^(a)										PROFESSIONAL SURVEY INFORMATION				ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION ^(b)							
		MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	BASELINE LOCATION (feet) ^(c)		GEODETIC LOCATION		GROUND	CASING	WELL	MEAS.	PRODUCT	WATER DEPTH	ELEVATION	PRODUCT	WATER ELEVATION	THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS ^(d)
												(Y) North	(X) East	LATITUDE	LONGITUDE											
CW-1	Caisson Well	ROY F. WESTON	-	-	-	-	-	-	-	-	754247.22	471142.06	40° 54' 14.2"	74° 34' 34.7"	630.83	634.35	-	26-Oct-01	-	9.01	-	621.82	-	-		
CW-3	Caisson Well	ROY F. WESTON	-	-	-	-	-	-	-	-	754203.93	471309.9	40° 54' 13.8"	74° 34' 32.5"	628.63	633.90	-	26-Oct-01	-	8.95	-	619.68	-	-		
GEI-11	Piezometer	ROY F. WESTON	April to October 1989	44.34	2.00	PVC	0.02	31.62	41.62	10.00	I	754767.14	471095.56	40° 54' 19.3"	74° 34' 35.3"	628.44	630.93	630.78	26-Oct-01	-	6.41	-	624.37	-	-	
GEI-21	Piezometer	ROY F. WESTON	April to October 1989	46.28	2.00	PVC	0.02	31.50	41.50	10.00	I	754573.99	470499.76	40° 54' 17.4"	74° 34' 43.1"	635.92	638.35	638.20	26-Oct-01	-	12.94	-	625.26	-	-	
GEI-28	Piezometer	ROY F. WESTON	April to October 1989	22.21	2.00	PVC	0.02	10.00	20.00	10.00	S	754566	470506.18	40° 54' 17.3"	74° 34' 43.0"	635.46	637.87	637.67	26-Oct-01	-	12.76	-	624.91	-	-	
GEI-31	Piezometer	ROY F. WESTON	April to October 1989	53.29	2.00	PVC	0.02	30.00	40.00	10.00	I	754311.79	470453.7	40° 54' 14.8"	74° 34' 43.7"	637.56	639.99	639.85	26-Oct-01	-	15.16	-	624.69	-	-	
MW-1(R)	Monitoring Well	ROY F. WESTON	February 3, 1995	22.50	4.00	STEEL	0.01	7.00	22.50	15.50	S	754207.21	470825.97	40° 54' 13.8"	74° 34' 38.8"	635.79	635.78	635.47	26-Oct-01	11.39	12.40	624.08	623.07	1.01	624.02	
MW-2(R)	Monitoring Well	ROY F. WESTON	January 30, 1995	13.00	2.00	PVC	0.01	2.00	12.00	10.00	S	754272.74	471267.56	40° 54' 14.4"	74° 34' 33.1"	629.06	632.28	632.14	26-Oct-01	-	8.42	-	623.72	-	-	
MW-3	Monitoring Well	WEHRAN ENG.	May 15, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	S	754227.41	471302.62	40° 54' 14.0"	74° 34' 32.6"	628.64	632.27	632.56	26-Oct-01	8.49	9.21	624.07	623.35	0.72	624.02	
MW-4 ^(e)	Monitoring Well	WEHRAN ENG.	May 20, 1980	27.00	2.00	STEEL	0.01	1.50	27.00	25.50	S	754070.52	471162.53	40° 54' 12.4"	74° 34' 34.4"	628.86	632.31	632.50	26-Oct-01	-	8.61	-	623.89	-	-	
MW-6(R)	Monitoring Well	ROY F. WESTON	January 25, 1995	10.98	2.00	PVC	0.02	0.98	10.98	10.00	S	754210.83	471191.61	40° 54' 13.8"	74° 34' 34.1"	629.82	632.64	632.42	26-Oct-01	-	8.48	-	623.94	-	-	
MW-8 ^(e)	Monitoring Well	GROUNDWATER TECHNOLOGIES	1983	19.00	2.00	STEEL	0.02	0.00	19.00	19.00	S	754099.29	471251.06	40° 54' 12.7"	74° 34' 33.3"	627.99	630.56	628.79	26-Oct-01	-	3.45	-	625.34	-	-	
MW-9 ^(e)	Monitoring Well	GROUNDWATER TECHNOLOGIES	1983	20.50	2.00	STEEL	0.02	0.50	20.00	19.50	S	754075.94	471111.03	40° 54' 12.5"	74° 34' 35.1"	629.21	631.69	630.18	26-Oct-01	-	5.38	-	624.80	-	-	
MW-11S	Monitoring Well	ROY F. WESTON	April to October 1989	14.73	4.00	STEEL	0.02	4.37	14.41	10.00	S	754226.73	47126.83	40° 54' 14.0"	74° 34' 34.9"	631.23	633.26	632.96	26-Oct-01	9.25	13.67	623.71	619.29	4.42	623.43	
MW-11I(R)	Monitoring Well	RMT, INC.	February 20, 1998	52.00	2.00	STEEL	0.01	42.00	52.00	10.00	I	754237.94	47128.05	40° 54' 14.1"	74° 34' 34.9"	630.89	633.67	633.33	26-Oct-01	-	9.44	-	623.89	-	-	
MW-11D(R) ^(e)	Monitoring Well	RMT, INC.	February 20, 1998	157.00	2.00	STEEL	0.01	147.00	157.00	10.00	D	754244.62	47124.66	40° 54' 14.2"	74° 34' 34.9"	630.66	633.35	633.09	26-Oct-01	-	7.44	-	625.65	-	-	
MW-12S(R)	Monitoring Well	ROY F. WESTON	May 7, 1996	14.45	4.00	PVC	0.02	2.45	14.45	12.00	S	754055.97	471042.34	40° 54' 12.3"	74° 34' 35.9"	632.17	634.86	634.33	26-Oct-01	-	10.19	-	624.14	-	-	
MW-13S	Monitoring Well	ROY F. WESTON	April to October 1989	16.39	4.00	STEEL	0.02	5.37	15.14	10.00	S	754353.97	47137.04	40° 54' 15.3"	74° 34' 31.7"	628.34	631.40	631.23	26-Oct-01	-	7.31	-	623.92	-	-	
MW-13S(R)	Monitoring Well	ROY F. WESTON	January 27, 1995	17.00	2.00	PVC	0.01	2.00	12.00	10.00	S	754333.07	471365.71	40° 54' 15.0"	74° 34' 31.8"	628.26	630.96	630.59	26-Oct-01	-	6.88	-	623.71	-	-	
MW-13I	Monitoring Well	ROY F. WESTON	July 31, 1989	46.30	2.00	STEEL	0.02	35.22	45.26	10.00	I	754337.8	471360.31	40° 54' 15.1"	74° 34' 31.9"	628.36	630.88	630.66	26-Oct-01	-	6.89	-	623.77	-	-	
MW-14S	Monitoring Well	ROY F. WESTON	April to October 1989	15.46	4.00	STEEL	0.02	3.42	13.46	10.00	S	754255.02	471423.66	40° 54' 14.3"	74° 34' 31.0"	625.78	628.63	628.41	26-Oct-01	-	4.83	-	623.58	-	-	
MW-14I ^(e)	Monitoring Well	ROY F. WESTON	April to October 1989	44.30	2.00	STEEL	0.02	33.22	43.26	10.00	I	754250.22	471409.52	40° 54' 14.2"	74° 34' 31.2"	625.93	628.32	628.23	26-Oct-01	-	4.56	-	623.67	-	-	
MW-15S ^(e)	Monitoring Well	ROY F. WESTON	April to October 1989	25.94	4.00	STEEL	0.02	9.37	19.41	10.00	S	754326.58	470891.83	40° 54' 15.0"	74° 34' 38.0"	634.83	637.03	636.77	26-Oct-01	-	12.66	-	624.11	-	-	
MW-15																										

TABLE 6
L.E. Carpenter and Company, Wharton, New Jersey
Groundwater Elevations

WELL LOCATION	WELL TYPE	WELL INSTALLATION AND CONSTRUCTION INFORMATION ⁽¹⁾									PROFESSIONAL SURVEY INFORMATION				ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION ⁽⁶⁾							
		MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	BASELINE LOCATION (feet) ⁽³⁾		GEODETIC LOCATION		GROUND	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS ⁽²⁾
WP-A1	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754220.52	470825.71	40° 54' 13.9"	74° 34' 38.6"	636.29	636.32	635.81	26-Oct-01	11.53	12.00	624.28	623.81	0.47	624.25	
WP-A2	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754249.34	470813.05	40° 54' 14.2"	74° 34' 39.0"	637.31	639.62	639.19	26-Oct-01	-	-	-	-	-	-	BENT WELL CASING - NOT EVALUATED
WP-A3	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754195.42	470717.12	40° 54' 13.7"	74° 34' 40.3"	635.97	635.97	635.56	26-Oct-01	-	-	-	-	-	-	-
WP-A4	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754229.46	470855.24	40° 54' 14.0"	74° 34' 38.5"	635.63	635.66	635.10	26-Oct-01	11.53	12.56	623.57	622.54	1.03	623.50	
WP-A5	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754266.54	470886.02	40° 54' 14.4"	74° 34' 38.1"	635.70	637.85	-	26-Oct-01	-	13.80	-	624.05	-	-	
WP-A6	Area A Well Point	ROY F. WESTON	1993	13.00	2.00	PVC	-	3.00	13.00	10.00	S	754184.69	470888.45	40° 54' 13.6"	74° 34' 38.0"	634.95	637.28	-	26-Oct-01	13.19	14.74	624.09	622.54	1.55	623.99
WP-A7	Area A Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754196.44	470999.43	40° 54' 13.7"	74° 34' 36.6"	632.94	634.88	-	26-Oct-01	10.96	-	623.92	-	All Product	-
WP-A8	Area A Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754260.25	470998.97	40° 54' 14.3"	74° 34' 36.6"	634.70	637.56	-	26-Oct-01	13.49	15.73	624.07	621.81	2.26	623.93	
WP-A9	Area A Well Point	ROY F. WESTON	1993	16.00	2.00	PVC	-	6.00	16.00	10.00	S	754184.12	470935.26	40° 54' 13.6"	74° 34' 37.4"	637.22	639.32	-	26-Oct-01	15.19	17.65	624.13	621.67	2.46	623.97
WP-B1	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754218.63	471068.54	40° 54' 13.9"	74° 34' 35.7"	631.85	633.65	-	26-Oct-01	-	9.35	-	624.30	-	-
WP-B2	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754262.8	471115.71	40° 54' 14.5"	74° 34' 35.1"	630.48	632.58	-	26-Oct-01	-	8.34	-	623.91	-	-
WP-B3	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754243.43	471088.51	40° 54' 14.2"	74° 34' 35.4"	631.71	633.38	-	26-Oct-01	-	9.02	-	624.31	-	-
WP-B4	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754275.31	471156.49	40° 54' 14.5"	74° 34' 34.5"	629.93	632.56	-	26-Oct-01	8.61	-	623.95	-	All Product	-	
WP-B5	Area B Well Point	ROY F. WESTON	1993	11.00	2.00	PVC	-	1.00	11.00	10.00	S	754296.93	471181.49	40° 54' 14.7"	74° 34' 34.2"	630.03	632.11	-	26-Oct-01	-	7.21	-	624.90	-	-
WP-B6	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754171.56	471223.53	40° 54' 13.4"	74° 34' 33.7"	629.72	631.86	-	26-Oct-01	-	7.76	-	624.10	-	-	
WP-B7	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754179.91	471330.82	40° 54' 13.5"	74° 34' 32.3"	627.62	629.49	-	26-Oct-01	-	5.36	-	624.13	-	-	
WP-B10	Area B Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754319.10	471144.76	40° 54' 14.9"	74° 34' 34.7"	630.42	633.12	632.74	26-Oct-01	-	8.82	-	623.92	-	-	
WP-C1	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754087.66	471038.32	40° 54' 12.6"	74° 34' 36.1"	632.81	633.51	-	26-Oct-01	-	9.58	-	623.93	-	-	
WP-C2	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754075.97	471074.74	40° 54' 12.5"	74° 34' 35.6"	633.02	634.46	-	26-Oct-01	-	9.17	-	625.29	-	-	
WP-C3	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754066.60	471009.58	40° 54' 12.4"	74° 34' 36.4"	631.00	632.64	-	26-Oct-01	-	7.59	-	625.05	-	-	
WP-C4	Area C Well Point	ROY F. WESTON	1993	-	-	-	-	-	-	-	754108.93	471050.74	40° 54' 12.8"	74° 34' 35.9"	632.44	633.27	-	26-Oct-01	-	0.00	-	633.27	-	-	

FOOTNOTES

- (1) Elevation measured at the top of a 3.33 ft. Staff gauge. Water depth based on a visual observation of the water level on the Staff gauge.
- (2) Corrected water level elevations utilize an average specific gravity of 0.9363 (RMT, Inc. product sampling in October 1999)
 - © MW-1(R); HPR-11 & WP-A8)
- (3) Wells included in the quarterly sampling program. Depth to water recorded before purging
- (4) Wells installed during new RI efforts per NJDEP and EPA requests to further delineate MW19/Hot Spot 1 Area
- (5) No boring log or well construction diagram available. Well specific information determined from Weston Geologic Cross Section
- (6) "-" in the Quarterly Measurement Information section of this database indicates that the presence of free product was NOT detected at any measurable thickness and therefore did not generate a product elevation, product thickness nor require water level elevation to be corrected
- (7) "-" in the Well Installation and Construction Information section indicates that well construction logs were not available for review
- (8) Horizontal Datum: New Jersey State Plane Coordinate System NAD 83. Vertical Datum: NGVD 29

GENERAL NOTES

All WP series wells finished elevation is 2 feet above nominal grade. Total depth of well only accounts for subsurface structure
 Wells MW-1A, MW5, MW-7, MW-10, MW-11I, MW-11D, MW-14D, MW-17D, MW-18D, MW-22, MW-24, MW-25, WP-B8, Pz-D1, Pz-6A, Pz-2A(R), Pz-2AS, RW-1 have been abandoned
 Wells MW-11I(R), MW11-D(R), MW-1(R), MW-2(R), MW-6(R), MW-22(R), and MW-25(R) are replacement wells

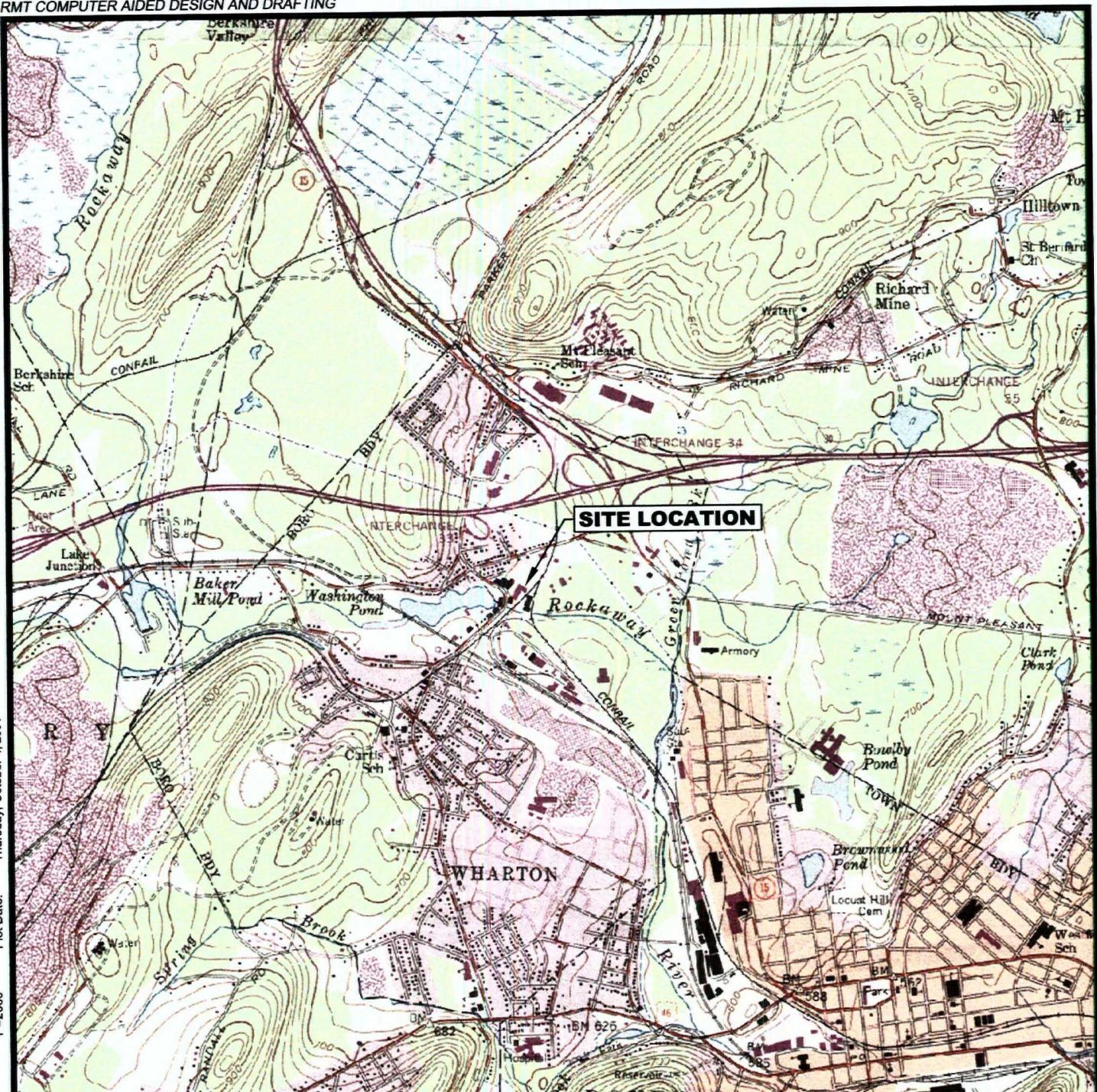
LEGEND

- S: Shallow Aquifer System
- I: Intermediate Aquifer System
- D: Deep Aquifer System
- R: Replacement Well
- NAS: Not Assessable
- REM: Removed

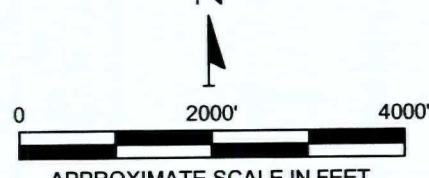
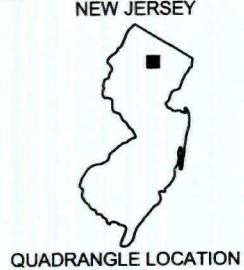
": Value of 0.00. Free Product not encountered at well

08:48:1141 AM
No xrefs Attached.Plot Time:
Attached Xrefs:81262 Bytes
Thursday, October 4, 2001Dwg Size:
Plot Date:
1"=2000'Operator Name:
Scale:
lucidos

J:\03868241\38682401.dwg

PLOT DATA:
Drawing Name:**SOURCE**

1. BASE MAP DEVELOPED FROM THE DOVER, NEW JERSEY 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP, DATED 1954, PHOTOREVISED 1981.



RMT INC.

LE CARPENTER
WHARTON, NEW JERSEY

SITE LOCATION MAP

DRAWN BY:	SJL
APPROVED BY:	JDD
PROJECT NUMBER:	3868.24
FILE NUMBER:	38682401.DWG
DATE:	OCTOBER 2001

FIGURE 1

Date: Friday, October 19, 2001
Pilot Time: 11:04:5818 AM
Attached Xref's: No xref's Attached.

Drawing Name: j:\38668\25\386682309.dwg
Operator Name: lucidos
Scale: 1"=1'

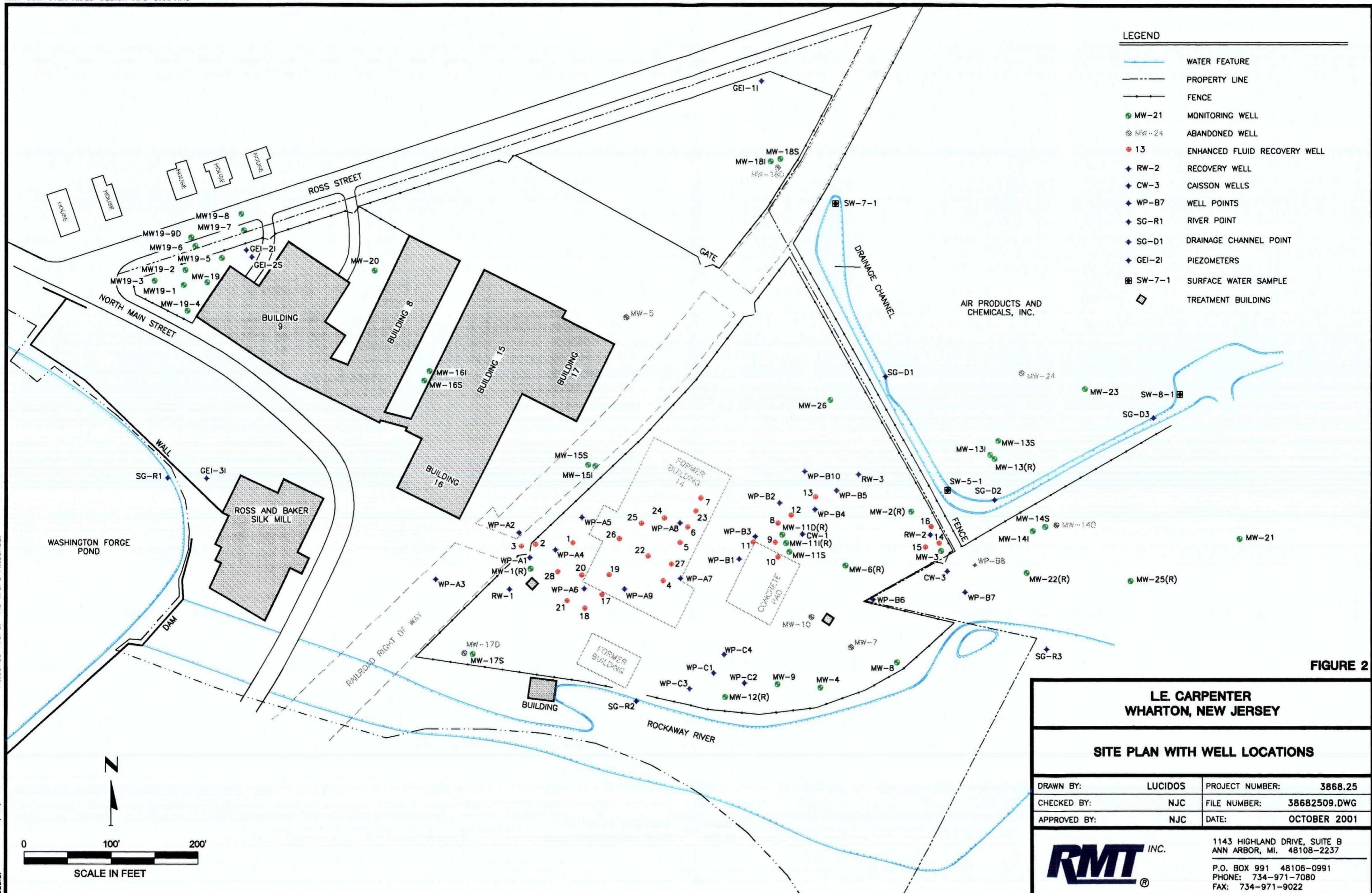


FIGURE 2

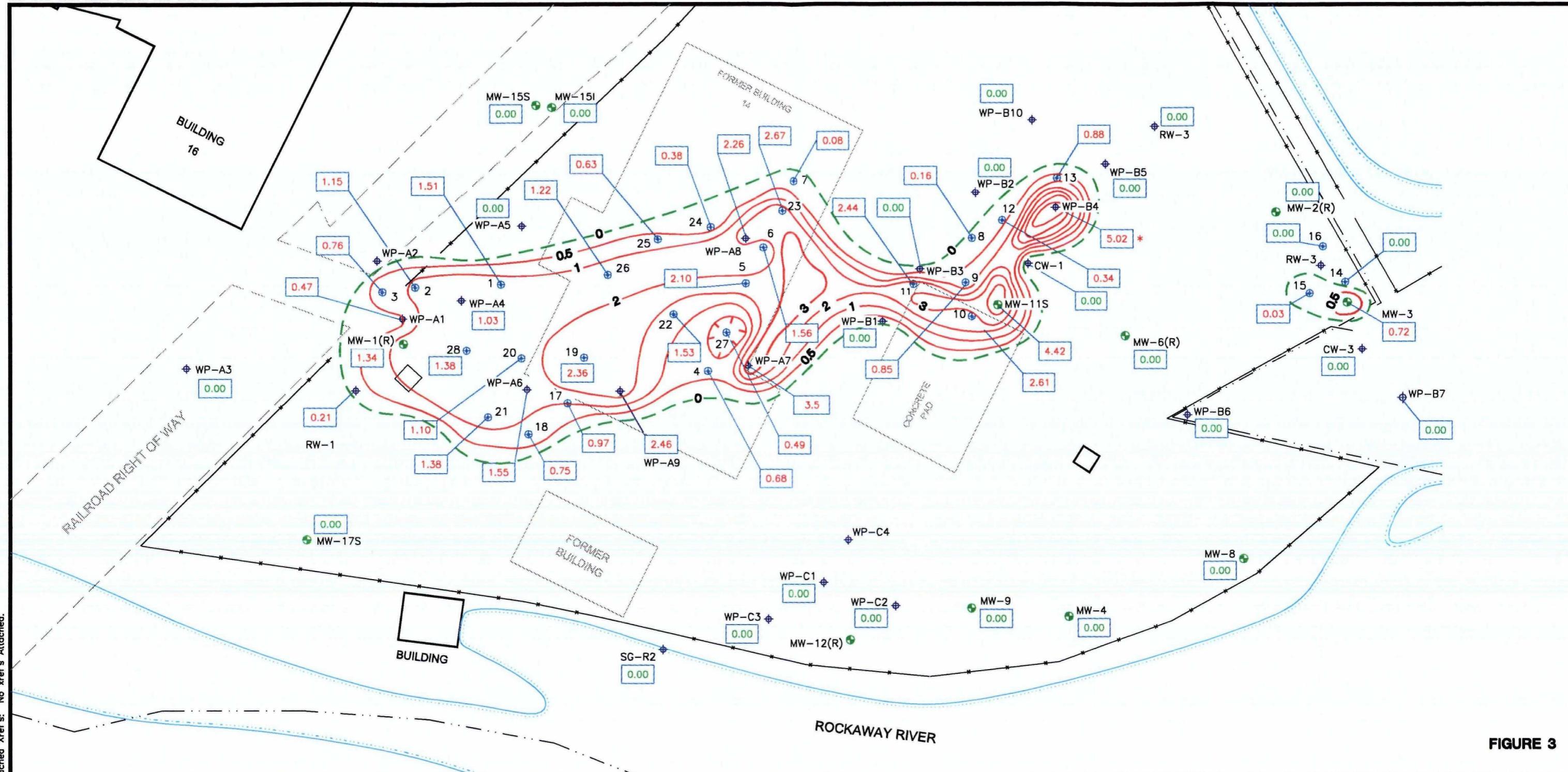
**L.E. CARPENTER
WHARTON, NEW JERSEY**

SITE PLAN WITH WELL LOCATIONS

DRAWN BY:	LUCIDOS	PROJECT NUMBER:	3868.25
CHECKED BY:	NJC	FILE NUMBER:	38682509.DWG
APPROVED BY:	NJC	DATE:	OCTOBER 2001

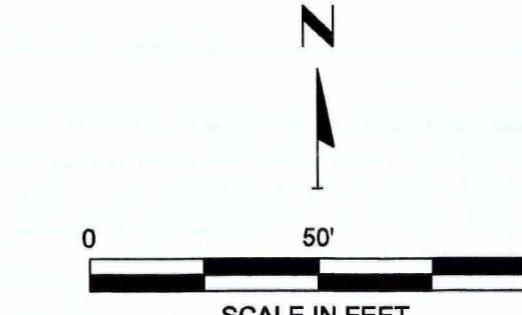
RMT INC.
®

1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237

**LEGEND**

- SURFACE WATER FEATURE**
- PROPERTY LINE**
- FENCE**
- APPARENT PRODUCT THICKNESS CONTOURS (FT)**
- APPROXIMATE OUTER LIMIT OF FREE PRODUCT**
- NO MEASURABLE PRODUCT**
- PRODUCT THICKNESS MEASURED IN WELL (FT)**
(Measurements collected at monitoring wells and well points)
on October 26, 2001 by STL Edison)
(Measurements collected at EFR wells on October 25, 2001 by CEMCO)
- 1.22**

- MW-13S** MONITORING WELL
- MW-24** ABANDONED WELL
- RW-2** RECOVERY WELL
- CW-3** CAISSON WELLS
- WP-B7** WELL POINTS WITH ELEVATION
- TREATMENT BUILDING**
- 13** ENHANCED FLUID RECOVERY WELL (EFR)
- *** PRODUCT EXTENDED BELOW BOTTOM OF WELL SCREEN AND IS ESTIMATED USING PREVIOUS DATA



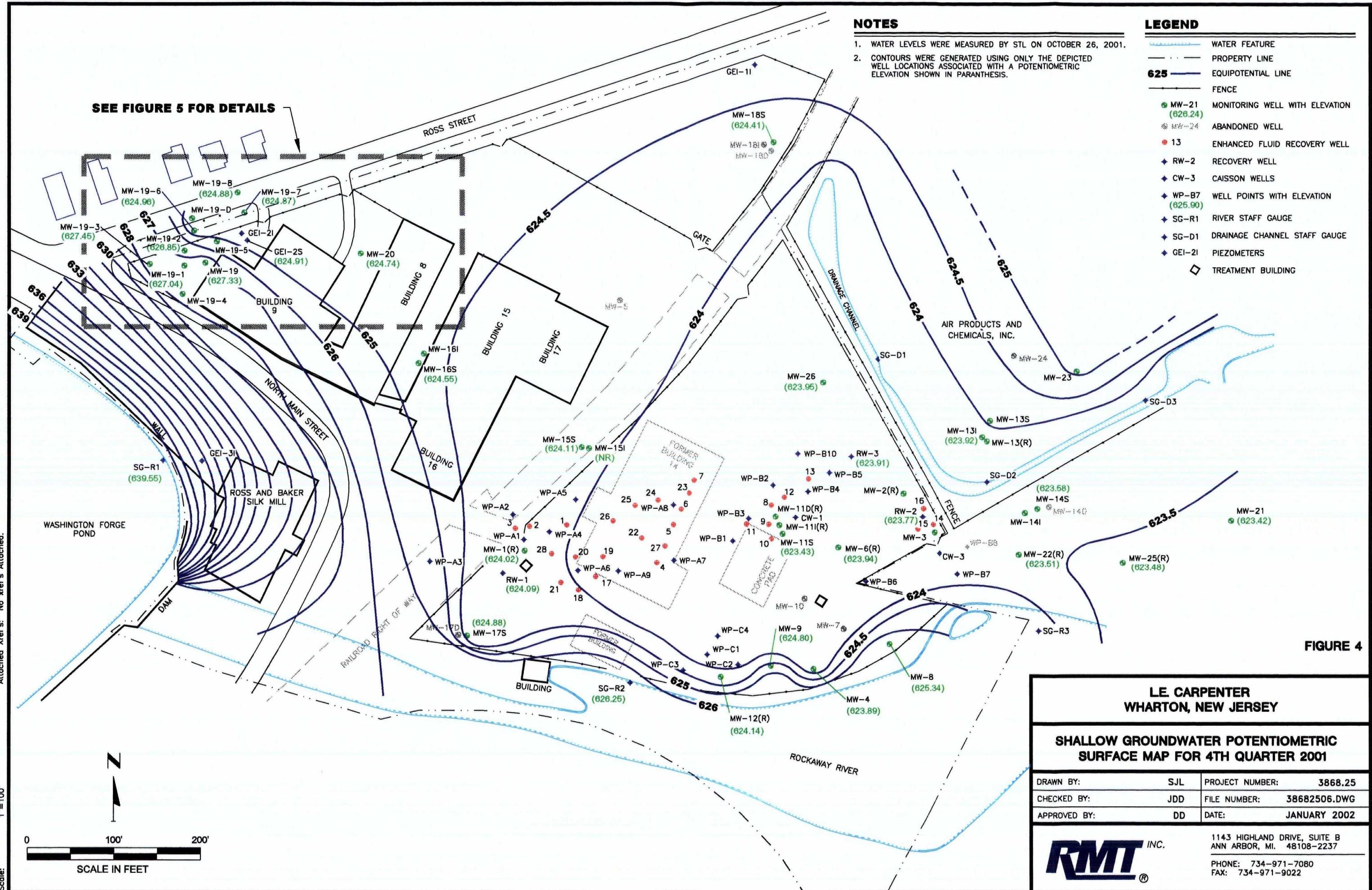
**LE CARPENTER
WHARTON, NEW JERSEY**

**APPARENT FREE PRODUCT THICKNESS CONTOURS
FOR 4th QUARTER 2001**

DRAWN BY:	SJL	PROJECT NUMBER:	3868.25
CHECKED BY:	JDD	FILE NUMBER:	38682523.DWG
APPROVED BY:	JDD	DATE:	JANUARY 2002

RMT INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237
PHONE: 734-971-7080
FAX: 734-971-9022

FIGURE 3

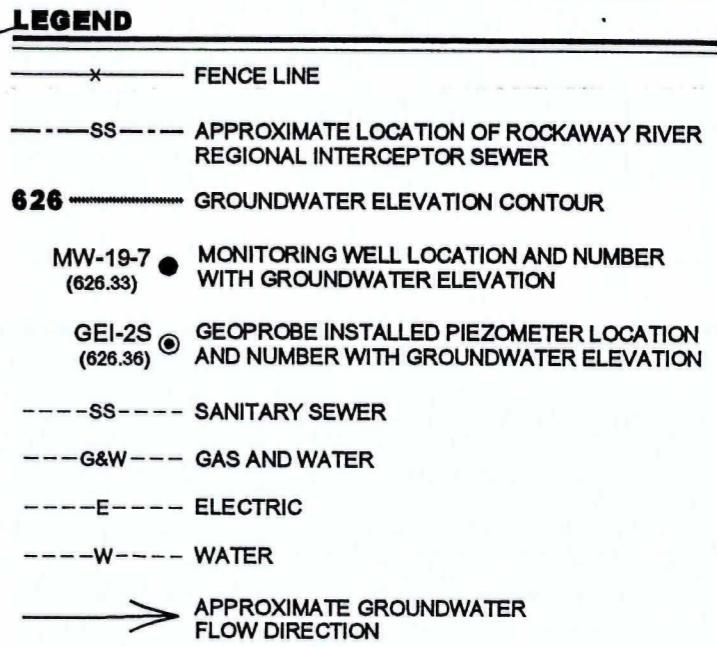
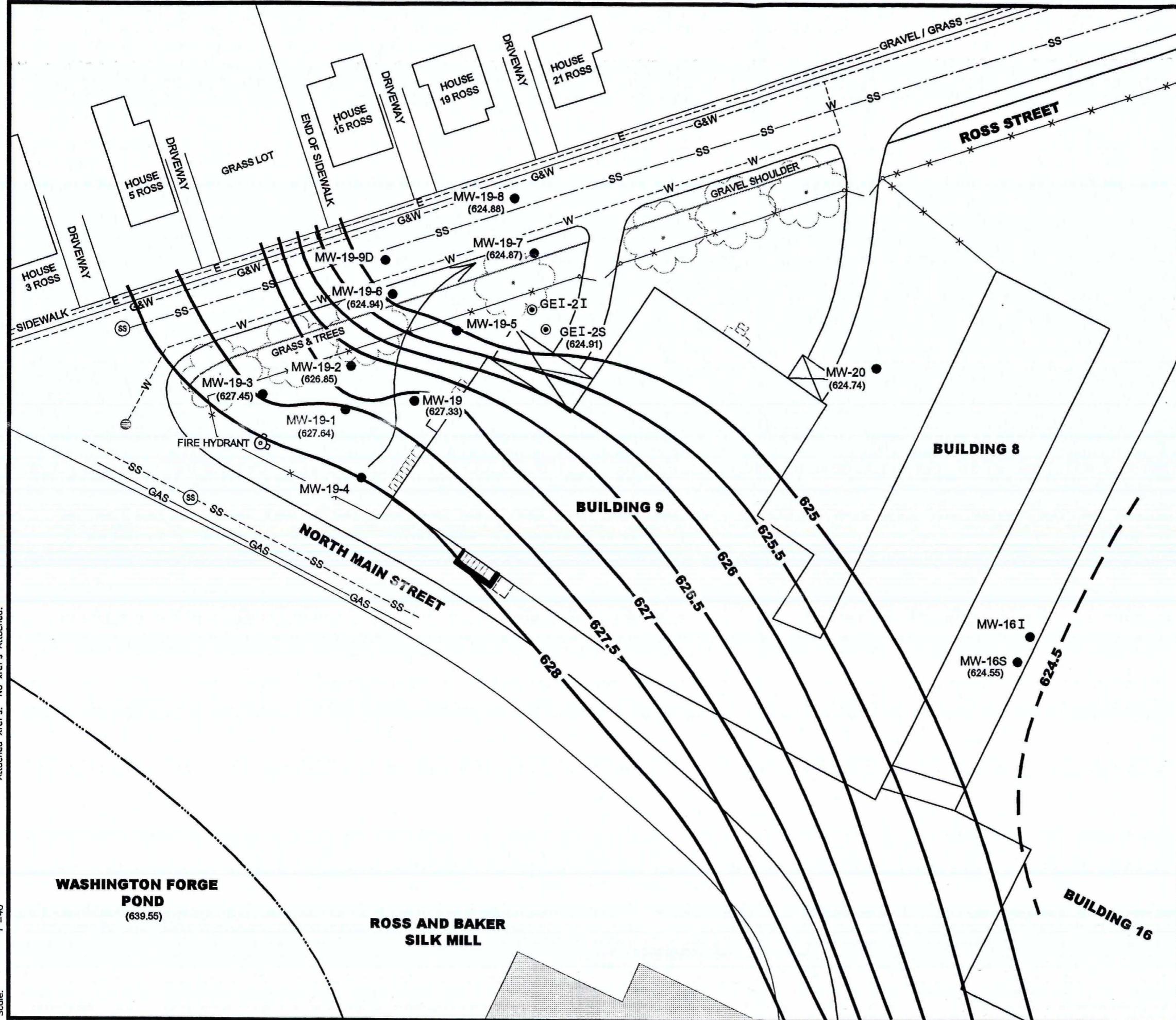


141745 Bytes
Friday, January 18, 2002
08:25:0672 AM
No xrefs Attached.

Dwg Size:
Plot Time:
Attached Xref's:

J:\03868\25\38682525.dwg
141745 Bytes
Friday, January 18, 2002
08:25:0672 AM
No xrefs Attached.

PLOT DATA
Drawing Name:
Operator Name:
Scale:



NOTES

1. GROUNDWATER ELEVATIONS BASED ON LEVELS MEASURED ON OCTOBER 26, 2001.

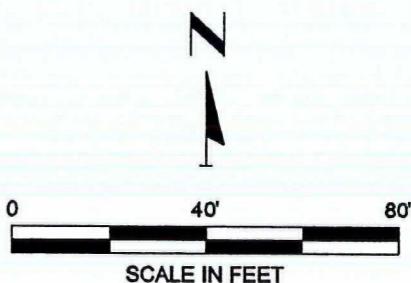


FIGURE 5

LE CARPENTER
WHARTON, NEW JERSEY

**MW-19 / HOT SPOT 1
GROUNDWATER ELEVATION CONTOURS
4TH QUARTER 2001**

DRAWN BY:	LUCIDOS	PROJECT NUMBER:	3868.25
CHECKED BY:	JDD	FILE NUMBER:	38682525.DWG
APPROVED BY:	JDD	DATE:	JANUARY 2002

RMT INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-2237

PHONE: 734-971-7080
FAX: 734-971-9022

Appendix A

Report Certification

REPORT CERTIFICATION
PURSUANT TO N.J.A.C. 7:26E-1.5

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement, which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Mr. Christopher R. Anderson

PRINTED NAME

Director, Environmental Services

TITLE

L.E. Carpenter & Company

COMPANY

Christopher Anderson

SIGNATURE

1/22/02

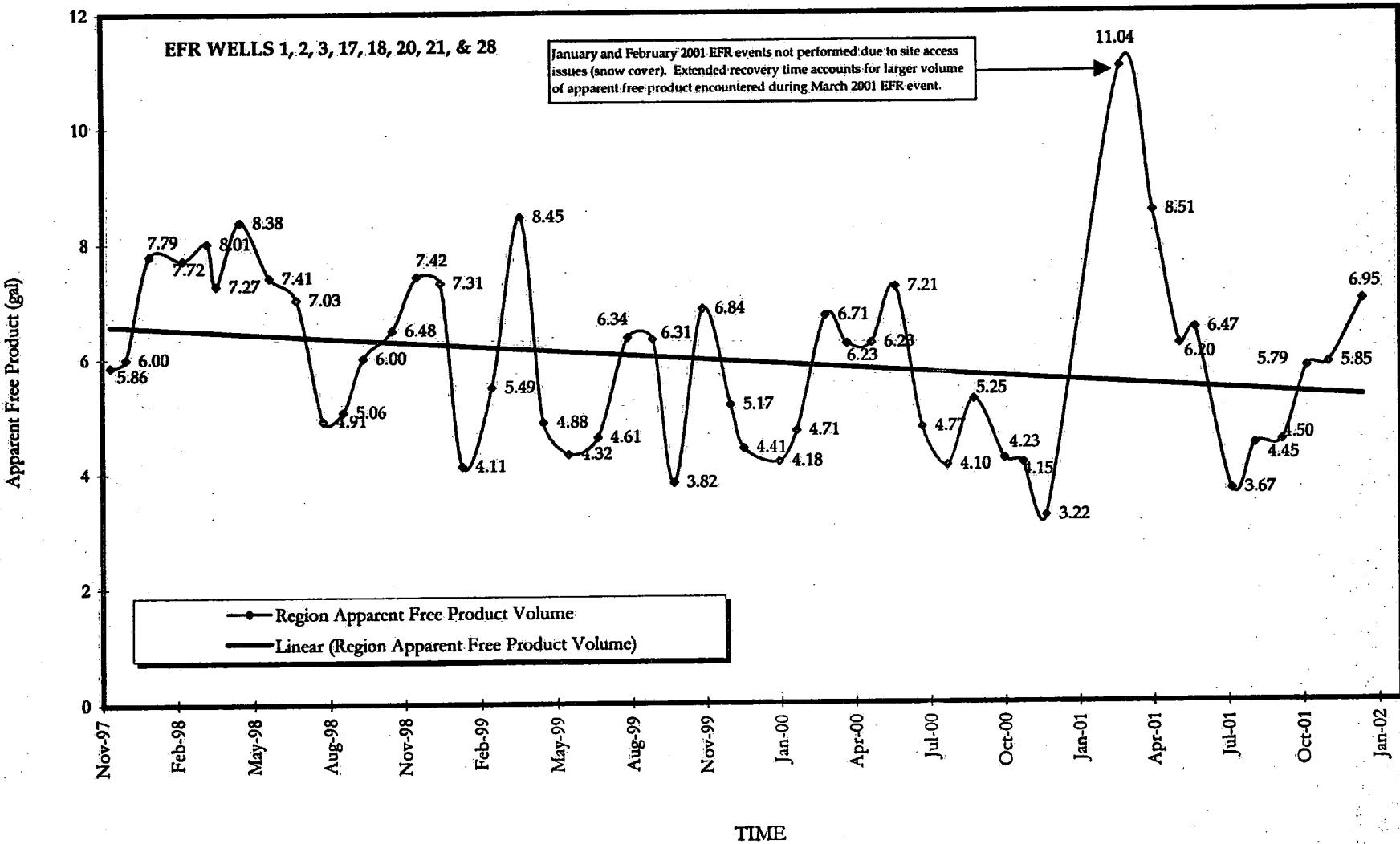
DATE

Appendix B

Apparent Free Product Volume Trend Charts

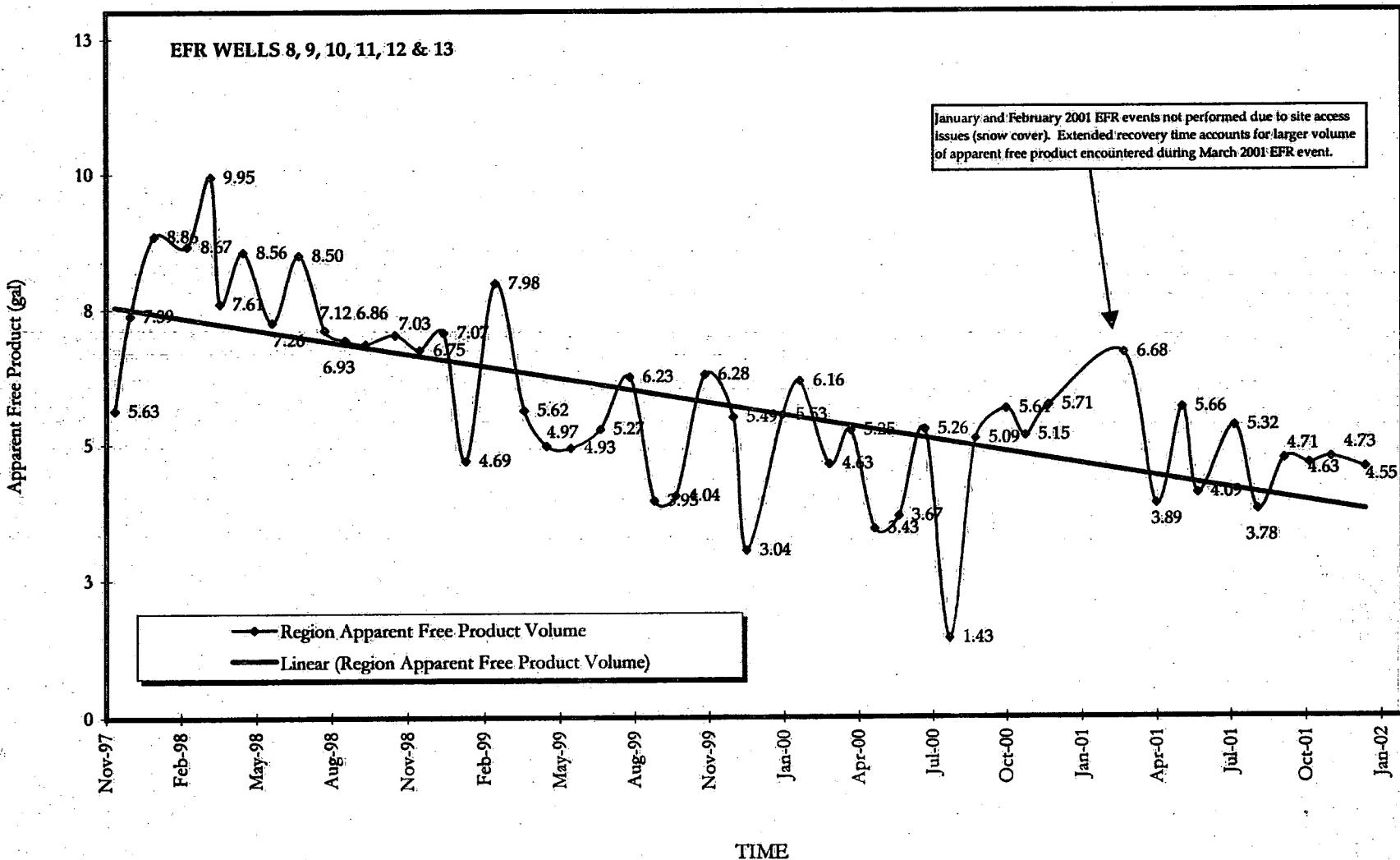
L.E. Carpenter and Company
Western Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2001



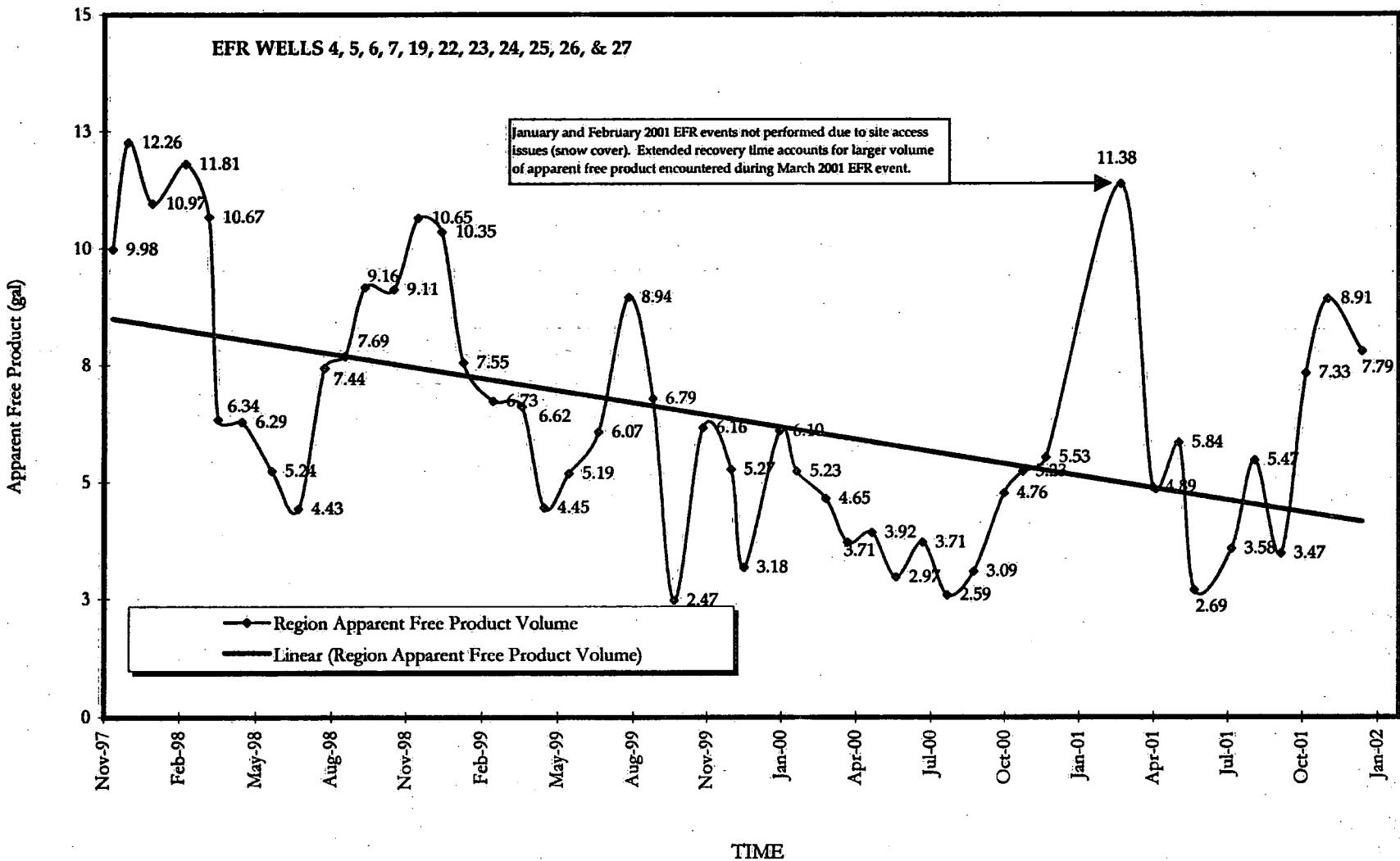
L.E. Carpenter and Company
East-Central Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2001



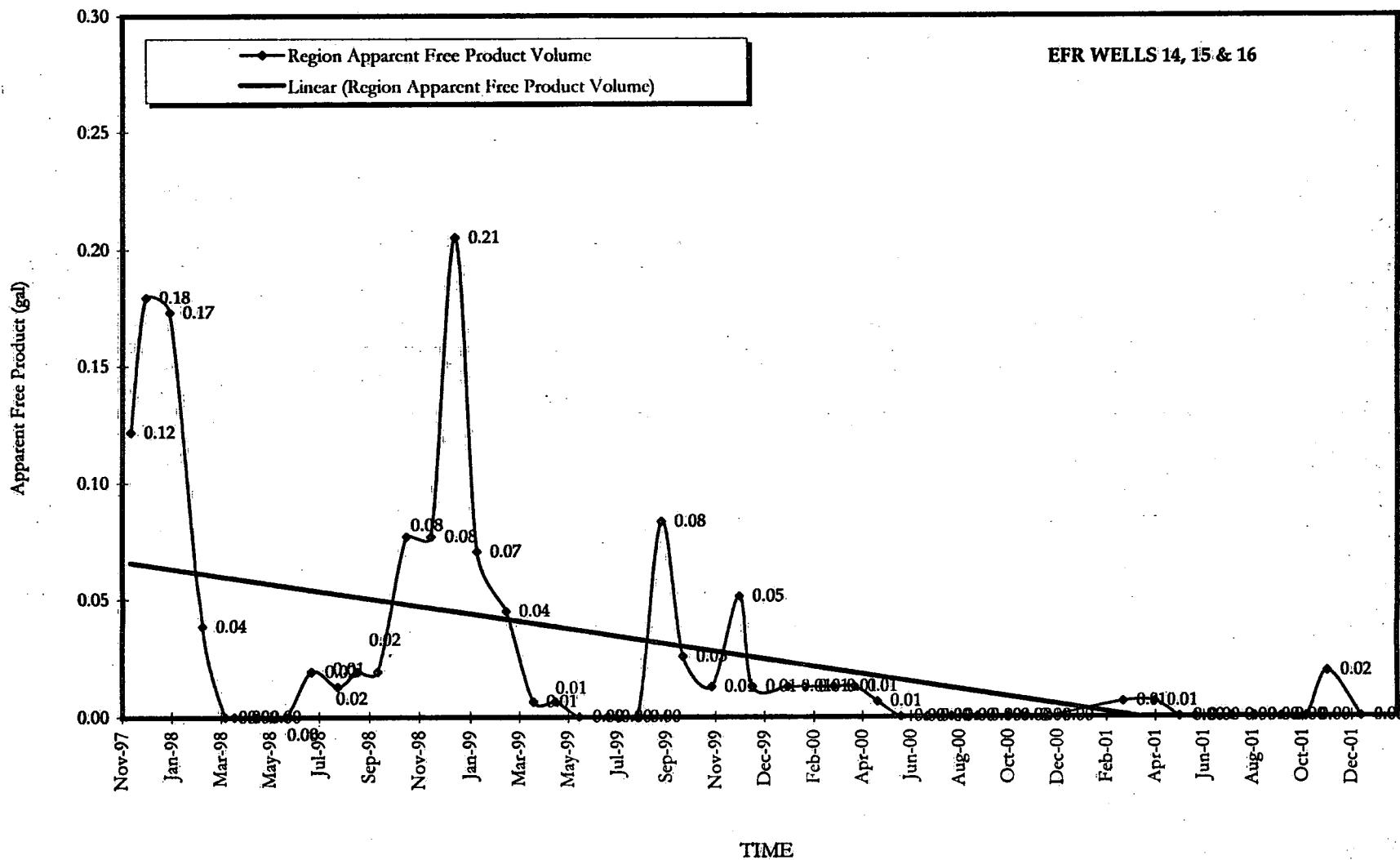
L.E. Carpenter and Company
West-Central Region of Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2001



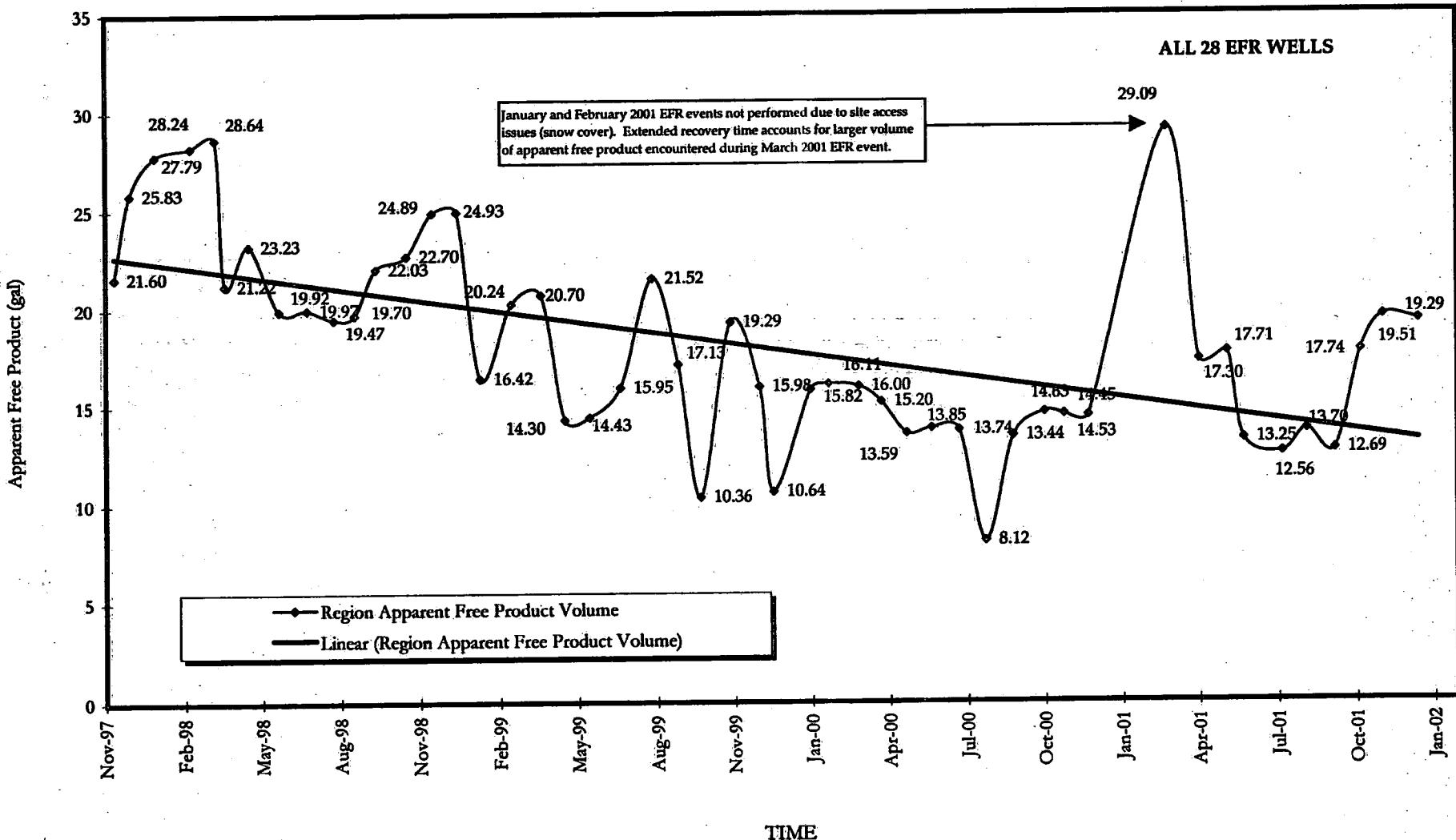
L.E. Carpenter and Company
Eastern Region of Free Product

**Apparent Free Product Volume vs. Time
Through 4th Quarter 2001**



L.E. Carpenter and Company
Total Site Free Product

Apparent Free Product Volume vs. Time
Through 4th Quarter 2001



Appendix C

Monitoring Well Sampling Data

Monitoring Well Data

Client: RMT

Project: LE Carpenter

Job No: Q293

Date Sampled: 10/26/01

Analyst: K. Alloway

Well ID	MW 15S	MW 15I	MW 11DR	MW 4	MW 14I	MW 22	MW 25	MW 21	MW 17S
Depth to Water From TOC feet (before purging)	12.66	12.53	7.44	8.61	4.56	4.62	3.74	5.38	10.51
Depth to Water From TOC feet (after purging)	12.69	12.57	7.64	9.16	4.72	7.92	9.02	5.45	10.61
Depth to Water From TOC feet (before sampling)	12.66	12.52	7.46	8.96	4.59	5.17	6.74	5.37	10.57
Depth to Bottom From TOC feet	19.48	40.14	161.25	18.31	43.32	8.81	9.11	14.58	15.00
pH before Purge	6.23	6.63	9.10	6.90	6.84	6.38	6.59	6.45	6.56
Temp. before Purge (°C)	14.1	13.6	15.5	13.6	13.5	13.5	12.7	12.7	14.0
Diss. Oxygen before Purge (ppm)	1.07	3.02	7.38	1.05	3.18	0.89	1.32	1.92	5.36
Cond. before Purge (umhos/cm)	618	378	317	289	244	347	273	543	285
Redox Potential before Purge (mV)	199	195	-72	-159	-46	-127	-87	-53	-45
Water Volume in Well (gal.)	4.45	4.50	25.1	1.58	6.33	0.68	0.87	6.00	2.93
Purge Method	peristaltic pump								
Purge Start Time	10:03	10:05	10:43	11:55	12:57	13:03	13:11	13:28	12:26
Purge End Time	10:16	10:20	11:45	12:01	13:15	13:05	13:19	14:01	12:39
Purge Rate (gpm)	1.00	0.93	1.21	1.00	1.06	1.00	0.38	0.54	0.69
Volume Purged (gal.)	13	14	75	6	19	2	3	18	9
pH after Purge	6.55	6.53	7.10	6.29	7.06	6.37	6.60	6.77	6.73
Temp. after Purge (°C)	15.3	14.4	11.8	13.6	12.6	13.8	12.7	13.0	14.6
Diss. Oxygen after Purge (ppm)	1.54	1.62	3.79	1.20	2.98	0.87	0.37	1.28	5.13
Cond. after Purge (umhos/cm)	602	544	223	280	214	351	313	552	279
Redox Potential after Purge (mV)	24	-116	20	-169	-95	-160	-91	-29	-10
pH at Sample	6.77	6.91	7.00	6.96	7.20	6.54	7.43	6.51	6.48
Temp. at Sample (°C)	15.7	14.8	12.4	13.3	13.8	13.9	12.9	13.0	14.4
Diss. Oxygen at Sample (ppm)	2.24	4.92	4.03	2.08	3.65	1.08	3.16	2.29	5.45
Cond. at Sample (umhos/cm)	536	375	207	291	207	339	299	571	289
Redox Potential at Sample (mV)	-23	-94	15	-160	-120	-139	-40	-15	-3
Sampling Method	teflon bailor								
Time of Sampling	10:32	10:27	11:50	12:12	13:50	13:39	14:03	14:16	12:45

Appendix D

MW-22R & MW-25R Groundwater Concentration Trend Analysis

MW-22R
BTEX and DEHP Concentration(s) Trend Analysis

Sampling Date(s)	ANALYTE				
	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	DEHP(ug/L)
21-Feb-95	ND	57	ND	260	6500
13-Jun-95	ND	311	ND	955	380
13-Sep-95	ND	171	ND	693	NS
07-Dec-95	ND	123	ND	494	320
14-Aug-97	ND	5,730	ND	32,900	7,500
03-Oct-97	ND	11,400	348	66,000	NS
12-Mar-98	ND	4,070	348	20,600	NS
26-Aug-98	ND	2,260	ND	11,300	5,800
28-Aug-98	ND	1,880	ND	10,300	NS
18-Dec-98	ND	1,650	ND	7,230	1,100
21-Jan-99	ND	18	ND	84	NS
15-Apr-99	ND	1,600	ND	7,600	670
22-Jul-99	ND	1,200	ND	5,200	NS
25-Oct-99	ND	810	ND	3,300	1,200
17-Jan-00	ND	360	ND	1,400	NS
13-Apr-00	ND	820	ND	3,600	92
31-Jul-00	ND	1,000	ND	4,800	NS
30-Oct-00	ND	1,200	ND	6,200	5,100
27-Feb-01	ND	1,900	ND	9,000	NS
02-Apr-01	ND	910	ND	4,100	2,400
24-Jul-01	ND	1,100	ND	5,300	8,200
26-Oct-01	ND	980	ND	4,700	15,000

NJGWQS (ug/l)	1	700	1000	40	30
ROD Discharge Criteria (ug/l)	1	350	500	20	30

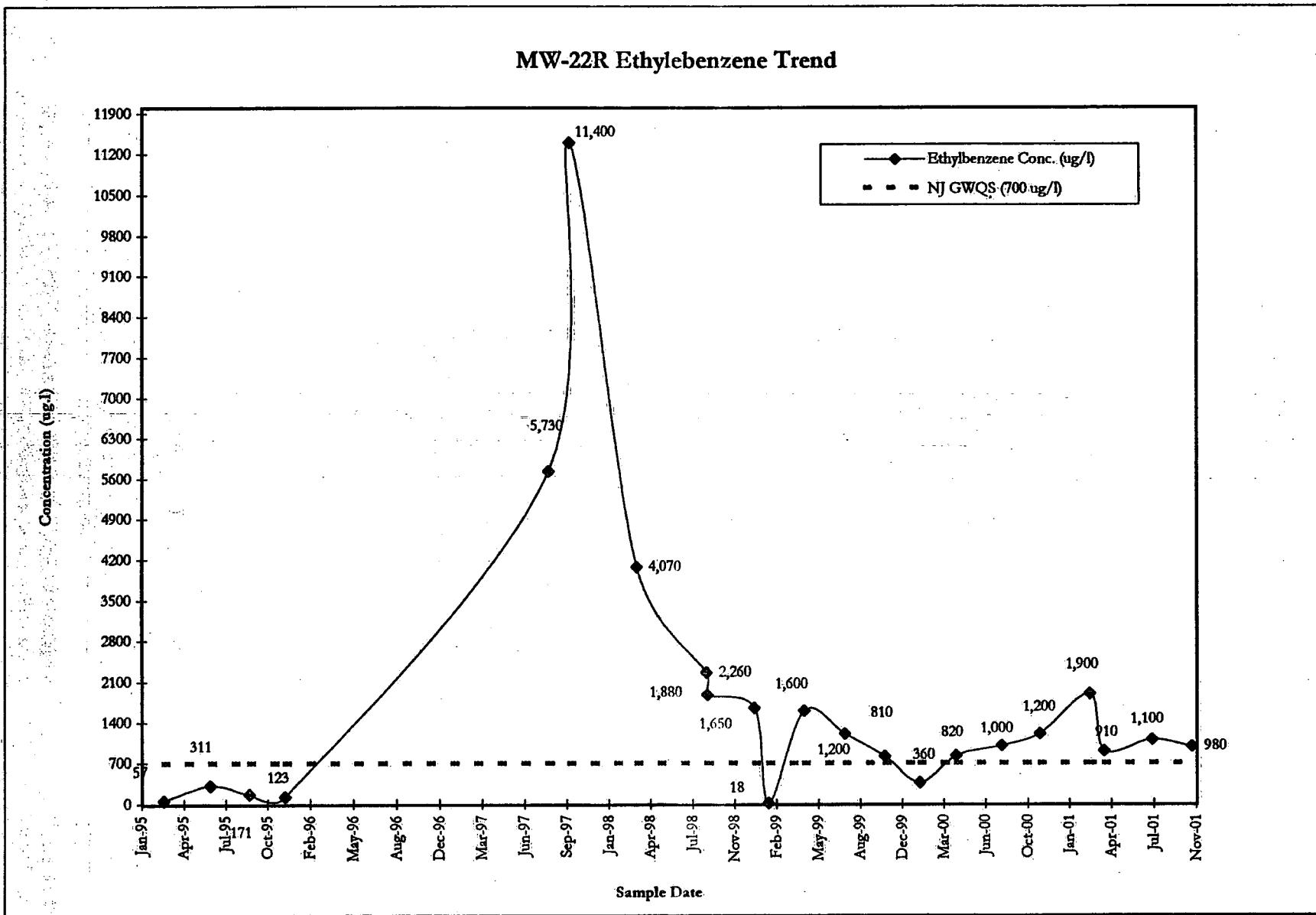
NOTES:

Concentrations in bold exceed both the ROD discharge criteria and NJDRP GWQS

ND = Not detected above method detection limits

NS = Not Sampled

MW-22R
CONTAMINANT OF CONCERN
Concentration vs. Time

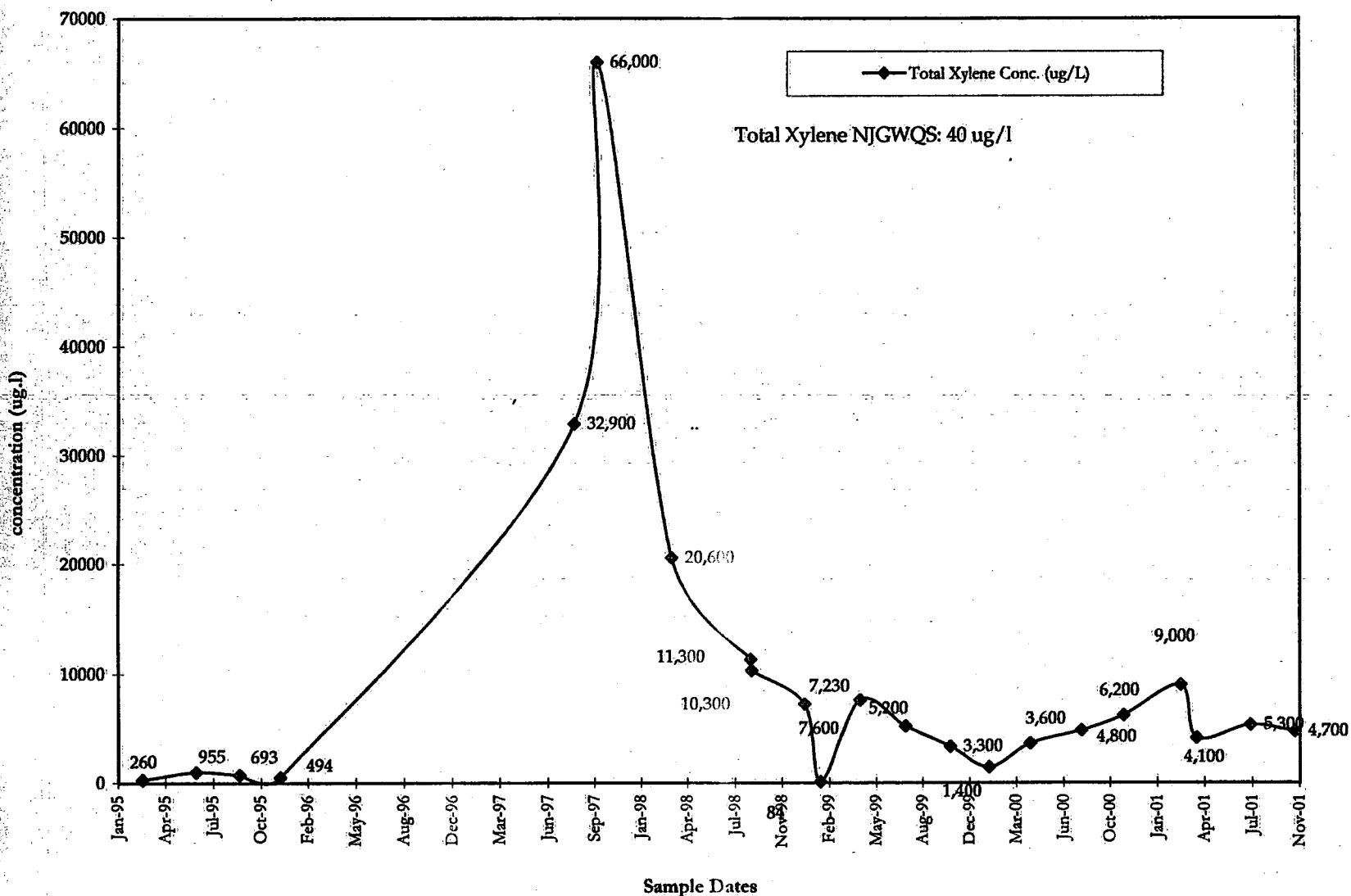


MW-22R

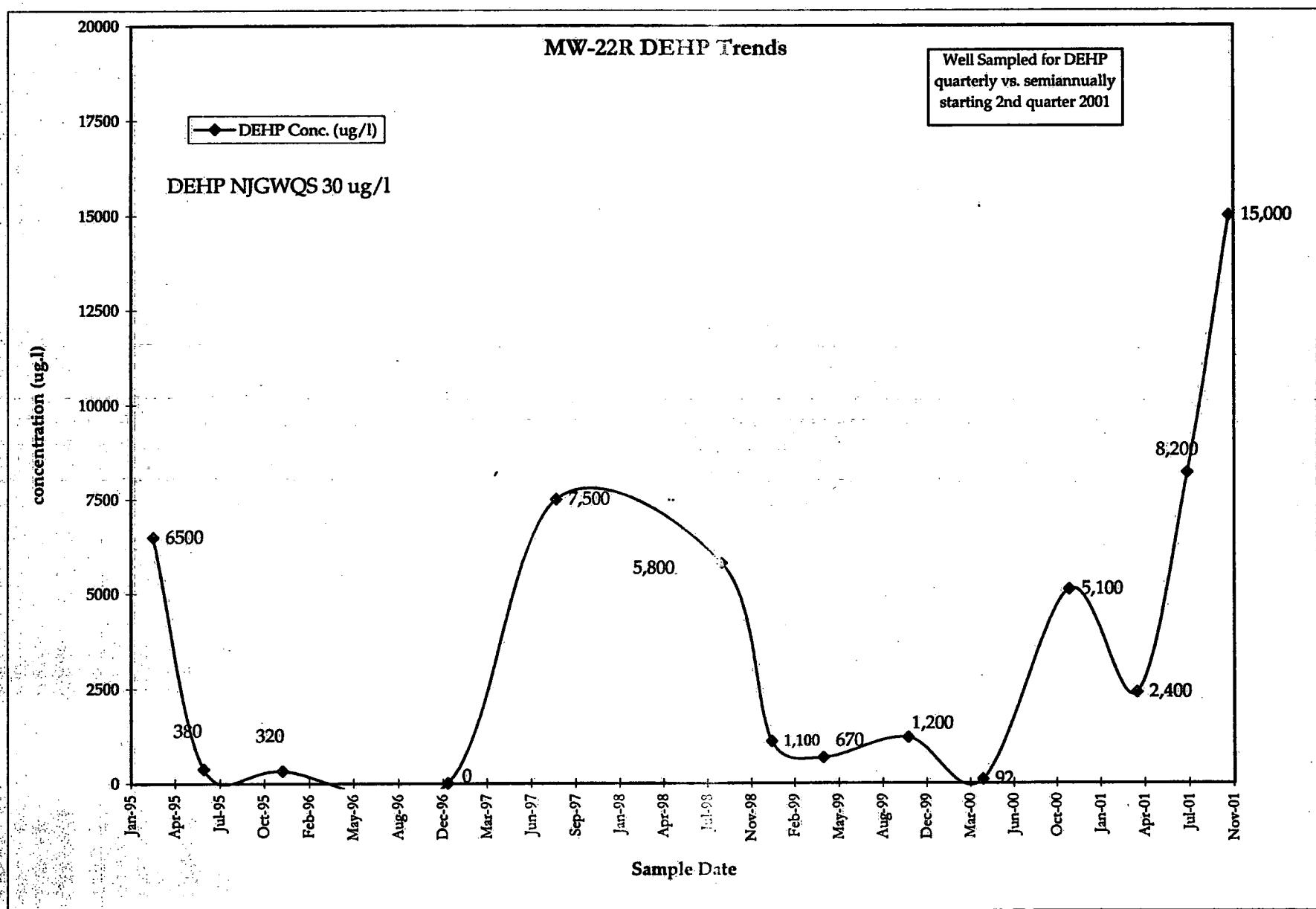
CONTAMINANTS OF CONCERN

Concentration vs. Time

MW-22R Total Xylene Trend



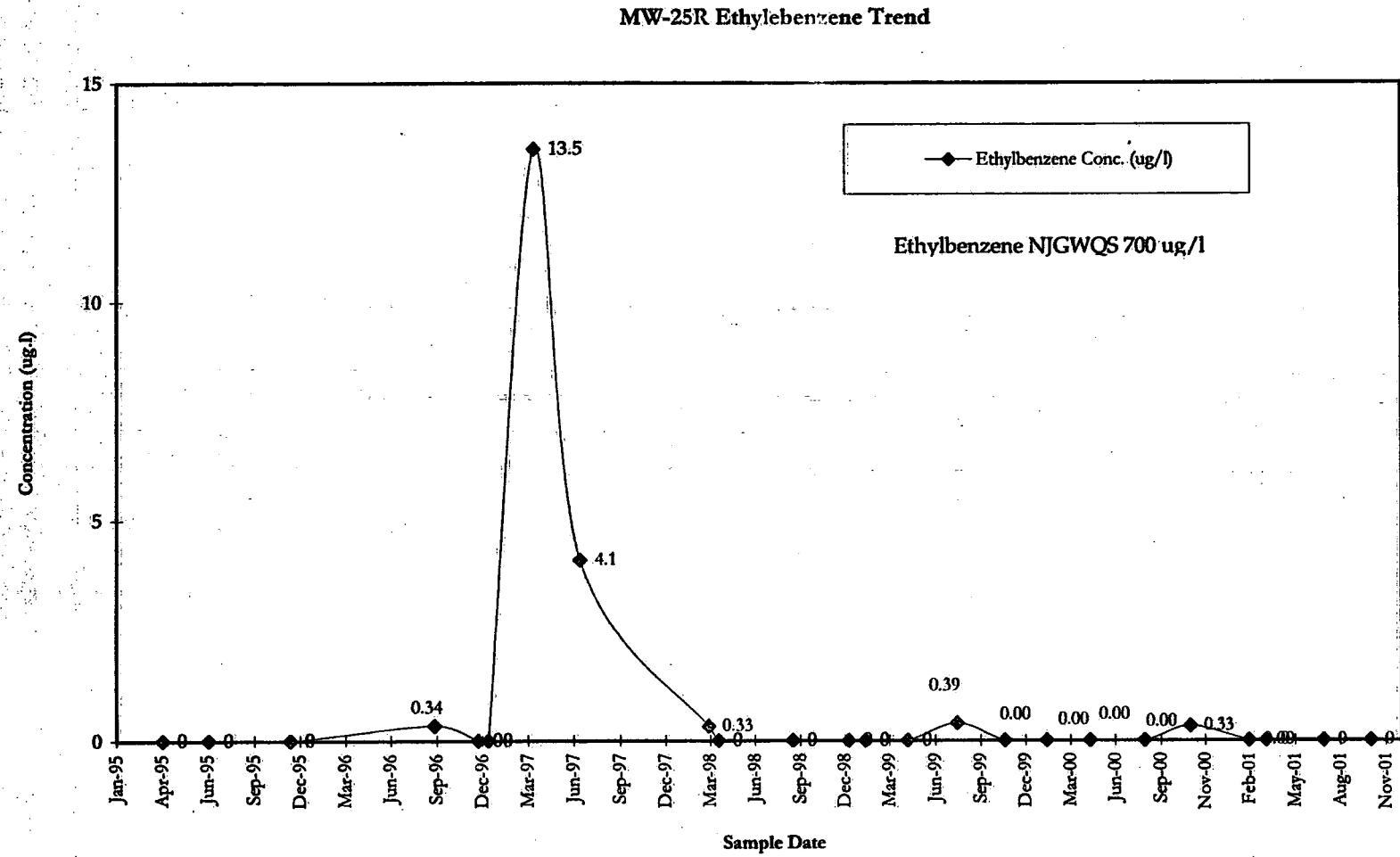
MW-22R
Contaminants of Concern
Concentration vs. Time



MW-25R
BTEX and DEHP Concentration(s) Trend Analysis

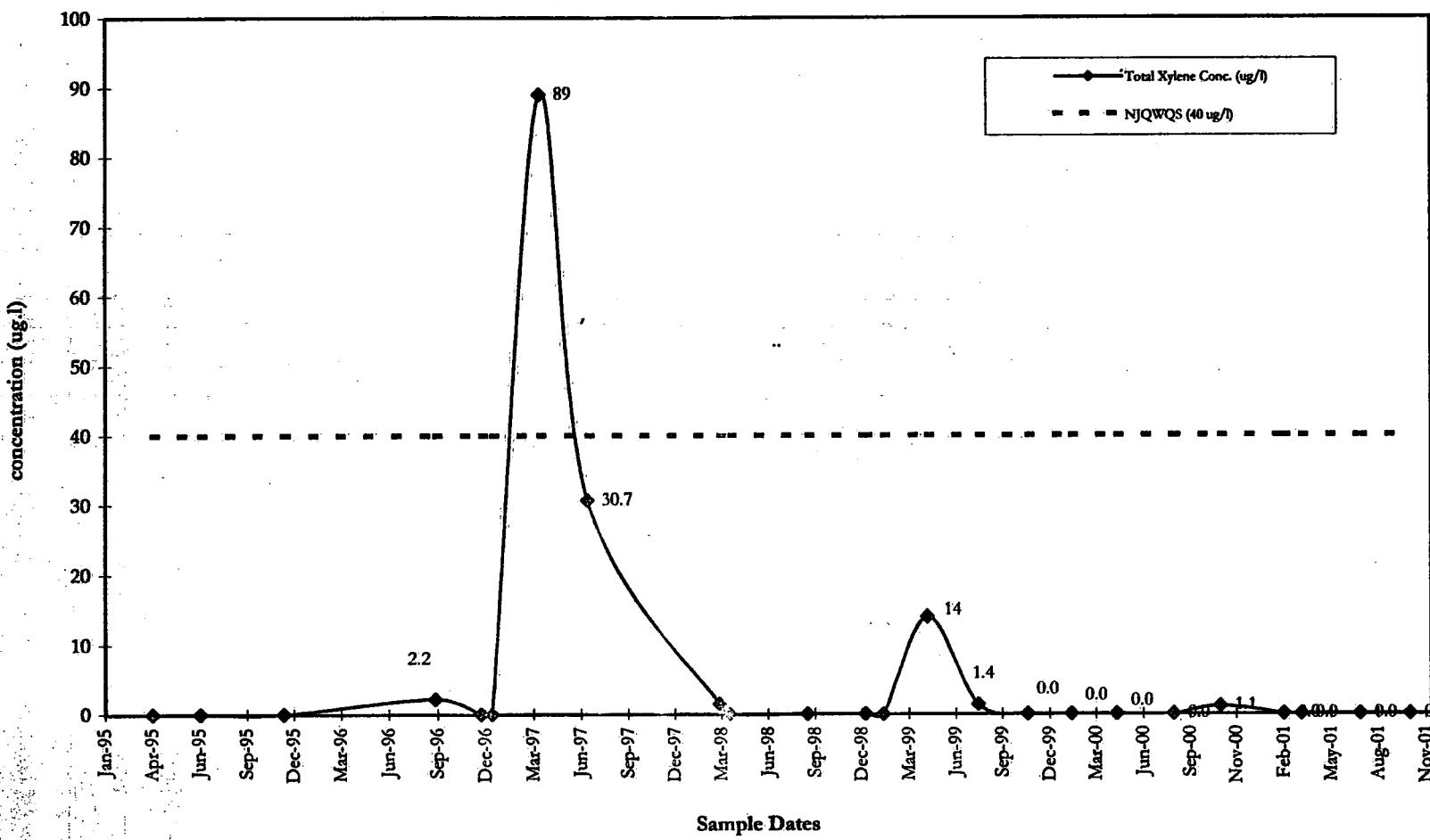
Sampling Date(s)	ANALYTICS				
	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Total Xylenes (ug/l)	DEHP (ug/l)
01-Apr-95	ND	ND	ND	ND	1.6
01-Jul-95	ND	ND	ND	ND	NS
07-Dec-95	ND	ND	ND	ND	68
17-Sep-96	ND	0.34	ND	2.2	NS
12-Dec-96	ND	ND	ND	ND	ND
01-Jan-97	ND	ND	ND	ND	NS
01-Apr-97	ND	13.5	ND	89	63
01-Jul-97	ND	4.1	ND	30.7	NS
12-Mar-98	ND	0.33	ND	1.5	NS
01-Apr-98	ND	ND	ND	ND	5.3
28-Aug-98	ND	ND	ND	ND	NS
18-Dec-98	ND	ND	ND	ND	1.9
21-Jan-99	ND	ND	ND	ND	ND
15-Apr-99	ND	ND	ND	14	ND
22-Jul-99	ND	0.39	ND	1.4	9.6
25-Oct-99	ND	ND	ND	ND	ND
17-Jan-00	ND	ND	ND	ND	ND
13-Apr-00	ND	ND	ND	ND	ND
31-Jul-00	ND	ND	ND	ND	ND
30-Oct-00	ND	0.33	ND	1.1	3.4
27-Feb-01	ND	ND	ND	ND	1.9
02-Apr-01	ND	ND	ND	ND	1.4
24-Jul-01	ND	ND	ND	ND	0.5
26-Oct-01	ND	ND	ND	ND	0.7
NJGWQS (ug/l)		NA	700	1000	40
ROD Discharge Criteria (ug/l)		NA	350	500	20
NOTES					
Concentrations in bold exceed both the ROD discharge criteria and NJDEP GWQS					
ND = Not detected above method detection limits					
NS = Not Sampled					

MW-25R
CONTAMINANT OF CONCERN
Concentration vs. Time



MW-25R
CONTAMINANTS OF CONCERN
Concentration vs. Time

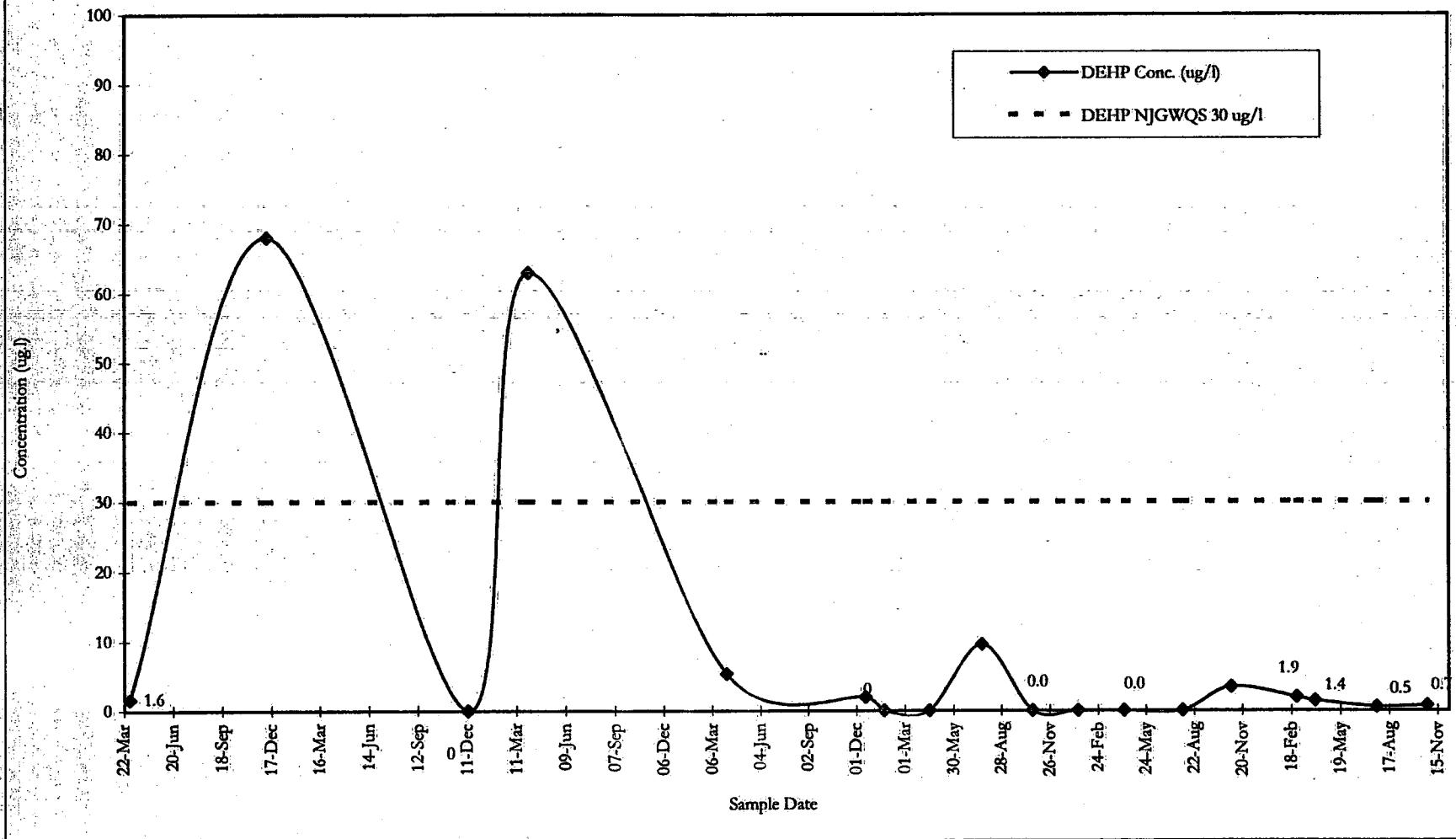
MW-25R Total Xylene Trend



MW-25R
CONTAMINANT OF CONCERN

Concentration vs. Time

MW-25R DEHP Trend



Appendix E
Laboratory Report
Severn Trent Services, STL Edison

11/20/2001

SEVERN
TRENT
SERVICES

Residuals Management Technologies, Inc.
222 South Riverside Plaza
Suite 280
Chicago, IL 60606

Attention: Mr Nick Clevett

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

Laboratory Results
Job No. Q293 - L.E. Carpenter

Dear Mr Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 26, 2001.

<u>Lab No.</u>	<u>Client ID</u>	<u>Analysis Required</u>
310229	Trip_Blank	BTEX (GC)
310230	Field_Blank	BTEX (GC) PP BN
310231	MW-15S	BTEX (GC) PP BN
310232	MW-15I	BTEX (GC) PP BN
310233	MW-11DR	PP BN
310234	MW-4	BTEX (GC) PP BN
310235	MW-14I	BTEX (GC) PP BN
310236	MW-22	BTEX (GC) PP BN
310237	MW-25	BTEX (GC) PP BN
310238	MW-21	BTEX (GC) PP BN



STL Edison is a part of Severn Trent Laboratories, Inc.

SEVERN
TRENT
SERVICES

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

Laboratory Results
Job No. Q293 - L.E. Carpenter (cont'd)

<u>Lab No.</u>	<u>Client ID</u>	<u>Analysis Required</u>
310239	MW-17S	BTEX (GC) PP BN
310240	MW-22d	BTEX (GC)

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very Truly Yours,



Michael J. Urban
Laboratory Director



STL Edison is a part of Severn Trent Laboratories, Inc.

Analytical Results Summary	1
General Information	23
Chain of Custody	23
Laboratory Chronicles	29
Methodology Review	32
Data Reporting Qualifiers	36
Non-Conformance Summary	38
GC/ PID Forms and Data	41
Results Summary and Chromatograms	41
Method Blank Results Summary	64
Standards Summary	71
Surrogate Compound Recovery Summary	99
Spike Recovery Summary	101
GC/ MS Forms and Data (Semivolatiles)	105
Results Summary and Chromatograms	105
Tuning Results Summary	153
Method Blank Results Summary	184
Calibration Summary	192
Surrogate Compound Recovery Summary	214
Spike Recovery Summary	216
Internal Standard Area and RT Summary	219
This is the Last Page of the Document	228

Analytical Results Summary

Client ID: Trip_Blank
Site: L.E. Carpenter

Lab Sample No: 310229
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2222.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: **Field_Blank**
Site: L.E. Carpenter

Lab Sample No: **310230**
Lab Job No: **Q293**

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2223.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter

Analytical Result
Units: ug/l

Method Detection
Limit
Units: ug/l

Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-15S
Site: L.E. Carpenter

Lab Sample No: 310231
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2224.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-15I
Site: L.E. Carpenter

Lab Sample No: 310232
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2225.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 310234
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 11/03/01
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: hpid5277.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	0.33	0.26
Xylene (Total)	0.77	0.25

Client ID: MW-14I
Site: L.E. Carpenter

Lab Sample No: 310235
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2227.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/PID
METHOD 602**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-22
Site: L.E. Carpenter

Lab Sample No: 310236
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2228.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/PID
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
Benzene	ND	28
Toluene	ND	26
Ethylbenzene	980	26
Xylene (Total)	4700	25

Client ID: MW-25
Site: L.E. Carpenter

Lab Sample No: 310237
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2231.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/PID
METHOD 602**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-21
Site: L.E. Carpenter

Lab Sample No: 310238
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2232.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/PID
METHOD 602**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-178
Site: L.E. Carpenter

Lab Sample No: 310239
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2233.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/PID
METHOD 602

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.28
Toluene	ND	0.26
Ethylbenzene	ND	0.26
Xylene (Total)	ND	0.25

Client ID: MW-22d
Site: L.E. Carpenter

Lab Sample No: 310240
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Analyzed: 10/30/01
GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid2234.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 mL
Final Volume: 0.0 mL
Dilution Factor: 100.0

VOLATILE ORGANICS - GC/PID
METHOD 602

Parameter

Analytical Result
Units: ug/l

Method Detection
Limit
Units: ug/l

Benzene	ND	28
Toluene	ND	26
Ethylbenzene	1000	26
Xylene (Total)	4900	25

Client ID: Field_Blank
Site: L.E. Carpenter

Lab Sample No: 310230
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3908.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	0.4

Client ID: MW-15S
Site: L.E. Carpenter

Lab Sample No: 310231
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3909.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	0.4

Client ID: MW-15I
Site: L.E. Carpenter

Lab Sample No: 310232
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3910.d

Matrix: WATER
Level: LOW
Sample Volume: 960 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	ND	0.5

Client ID: MW-11DR
Site: L.E. Carpenter

Lab Sample No: 310233
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3913.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	0.6	0.4

Client ID: MW-4
Site: L.E. Carpenter

Lab Sample No: 310234
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/02/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3930.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 20.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	3300	9.0

Client ID: MW-14I
Site: L.E. Carpenter

Lab Sample No: 310235
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3915.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	2.2	0.4

Client ID: MW-22
Site: L.E. Carpenter

Lab Sample No: 310236
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/02/01
GC Column: DB-5
Instrument ID: BNAMSS.i
Lab File ID: q3931.d

Matrix: WATER
Level: LOW
Sample Volume: 990 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 100.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	15000	44

Client ID: MW-25
Site: L.E. Carpenter

Lab Sample No: 310237
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3917.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u>	<u>Method Detection Limit</u>
	<u>Units: ug/l</u>	<u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	0.7	0.4

Client ID: MW-21
Site: L.E. Carpenter

Lab Sample No: 310238
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3918.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	0.6	0.4

Client ID: MW-17S
Site: L.E. Carpenter

Lab Sample No: 310239
Lab Job No: Q293

Date Sampled: 10/26/01
Date Received: 10/26/01
Date Extracted: 10/29/01
Date Analyzed: 11/01/01
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q3919.d

Matrix: WATER
Level: LOW
Sample Volume: 980 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 625

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection Limit</u> <u>Units: ug/l</u>
bis(2-Ethylhexyl)phthalate	9.6	0.4

General Information

Chain of Custody

STL EDISON

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

Field Services SJO

CHAIN OF CUSTODY / ANALYSIS REQUESTPAGE 1 OF 2

Name (for report and invoice) <i>Mr Nicholas J. Clavett</i>	Samplers Name (Printed) <i>K. Alloway, E. Teagard</i>	Site/Project Identification <i>LE Cooperator</i>						
Company <i>RMT, Inc.</i>	P.O. #	State (Location of site): NJ: <input checked="" type="checkbox"/> NY: <input type="checkbox"/> Other:						
Address <i>222 South Riverside Plaza suite 200</i>	Analysis Turnaround Time Standard <input checked="" type="checkbox"/>	Regulatory Program:						
City <i>Chicago</i>	Rush Charges Authorized For: 2 Week <input type="checkbox"/> 1 Week <input type="checkbox"/> Other <input type="checkbox"/>	ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)						
Phone Fax	Date 10/24/01	Time 6:15	Matrix Ag	No. of. 2	<i>X</i>	<i>DEHP</i>	Sample Numbers <i>310229</i>	
					<i>X</i>	<i>X</i>	<i>310230</i>	
					<i>X</i>	<i>X</i>	<i>310231</i>	
					<i>X</i>	<i>X</i>	<i>310232</i>	
					<i>X</i>		<i>310233</i>	
					<i>X</i>	<i>X</i>	<i>310234</i>	
					<i>X</i>	<i>X</i>	<i>310235</i>	
					<i>X</i>	<i>X</i>	<i>310236</i>	
					<i>X</i>	<i>X</i>	<i>310237</i>	
					<i>X</i>	<i>X</i>	<i>310238</i>	
Preservation Used: 1 = ICE, 2 = HCl, 3 = H ₂ SO ₄ , 4 = HNO ₃ , 5 = NaOH 6 = Other _____, 7 = Other _____					Soil:			
					Water:	<i>10</i>	<i>1</i>	

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by <i>R. Schulze</i>	Company <i>STL</i>	Date / Time <i>10/24/01 1537</i>	Received by <i>LSC</i>	Company <i>STL Edison</i>
Relinquished by <i></i>	Company <i>Howard Schulze</i>	Date / Time <i></i>	Received by <i></i>	Company <i>Howard Schulze</i>
Relinquished by <i></i>	Company <i></i>	Date / Time <i></i>	Received by <i></i>	Company <i></i>
Relinquished by <i></i>	Company <i></i>	Date / Time <i></i>	Received by <i></i>	Company <i></i>

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

STL EDISON

**777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679**

Field Services SJO

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE 2 OF 3

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by 1) <i>R. Long Jr.</i>	Company <i>Sra</i>	Date / Time <i>10/26/01 1537</i>	Received by 1) <i>H. V. S. S.</i>	Company
Relinquished by 2)	Company	Date / Time 	Received by 2)	Company
Relinquished by 3)	Company	Date / Time 	Received by 3)	Company
Relinquished by 4)	Company	Date / Time 	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132)

Monitoring Well Data

Client: RMT

Project: LE Carpenter

Job No: Q293

Date Sampled: 10/26/01

Analyst: K. Alloway

Well ID	MW 15S	MW 15I	MW 11DR	MW 4	MW 14I	MW 22	MW 25	MW 21	MW 17S
Depth to Water From TOC feet (before purging)	12.66	12.53	7.44	8.61	4.56	4.62	3.74	5.38	10.51
Depth to Water From TOC feet (after purging)	12.69	12.57	7.64	9.16	4.72	7.92	9.02	5.45	10.61
Depth to Water From TOC feet (before sampling)	12.66	12.52	7.46	8.96	4.59	5.17	6.74	5.37	10.57
Depth to Bottom From TOC feet	19.48	40.14	161.25	18.31	43.32	8.81	8.11	14.58	15.00
pH before Purge	6.23	6.63	9.10	6.90	6.84	6.38	6.59	6.45	6.56
Temp. before Purge (°C)	14.1	13.6	15.5	13.6	13.5	13.5	12.7	12.7	14.0
Diss. Oxygen before Purge (ppm)	1.07	3.02	7.38	1.05	3.18	0.89	1.32	1.92	5.36
Cond. before Purge (umhos/cm)	618	378	317	289	244	347	273	543	285
Redox Potential before Purge (mV)	199	195	-72	-159	-46	-127	-87	-53	-45
Water Volume in Well (gal.)	4.45	4.50	25.1	1.58	6.33	0.68	0.87	6.00	2.93
Purge Method	peristaltic pump								
Purge Start Time	10:03	10:05	10:43	11:55	12:57	13:03	13:11	13:28	12:26
Purge End Time	10:16	10:20	11:45	12:01	13:15	13:05	13:19	14:01	12:39
Purge Rate (gpm)	1.00	0.93	1.21	1.00	1.06	1.00	0.38	0.54	0.69
Volume Purged (gal.)	13	14	75	6	19	2	3	18	9
pH after Purge	6.55	6.53	7.10	6.29	7.06	6.37	6.60	6.77	6.73
Temp. after Purge (°C)	15.3	14.4	11.8	13.6	12.6	13.8	12.7	13.0	14.6
Diss. Oxygen after Purge (ppm)	1.54	1.62	3.79	1.20	2.98	0.87	0.37	1.28	5.13
Cond. after Purge (umhos/cm)	602	544	223	280	214	351	313	552	279
Redox Potential after Purge (mV)	24	-116	20	-169	-95	-160	-91	-29	-10
pH at Sample	6.77	6.91	7.00	6.96	7.20	6.54	7.43	6.51	6.48
Temp. at Sample (°C)	15.7	14.8	12.4	13.3	13.8	13.9	12.9	13.0	14.4
Diss. Oxygen at Sample (ppm)	2.24	4.92	4.03	2.08	3.65	1.08	3.16	2.29	5.45
Cond. at Sample (umhos/cm)	536	375	207	291	207	339	299	571	289
Redox Potential at Sample (mV)	-23	-94	15	-160	-120	-139	-40	-15	-3
Sampling Method	teflon bailor								
Time of Sampling	10:32	10:27	11:50	12:12	13:50	13:39	14:03	14:16	12:45

Water Levels L.E. Carpenter Site Date: 10/26/01

Well ID	Product	Depth to Water
MW-1 (R)	11.39	12.40
MW-2 (R)	N	8.42
MW-3	8.49	9.21
MW-4	N	8.61
MW-6 (R)	N	8.48
MW-8	N	3.45
MW-9	N	5.38
MW-11S	9.25	13.67
MW-11IR	N	9.44
MW-11DR	N	7.44
MW-12R	N	10.19
MW-13S	N	7.31
MW-13(R)	N	6.88
MW-131	N	6.89
MW-14S	N	4.63
MW-14I	N	4.56
MW-15S	N	12.66
MW-15I	N	12.53
MW-16S	N	9.92
MW-16I	N	10.41
MW-17S	N	10.51
MW-18S	N	6.85
MW-18I	N	6.71
MW-19	N	11.55
MW-19-1	N	11.22
MW-19-2	N	11.91
MW-19-3	N	12.20
MW-19-4	N	10.99
MW-19-5	N	truck on top
MW-19-6	N	11.48
MW-19-7	N	10.73
MW-19-8	N	11.08
MW-20	N	12.03
MW-21	N	5.38
MW-22 (R)	N	4.62
MW-23	N	5.61
MW-25 (R)	N	3.74
MW-26	N	9.31
RW-1	13.28	13.49
RW-2	N	7.91
RW-3	N	8.08
CW-1	N	9.01
CW-3	N	8.95
GEI-1I	N	6.41
GEI-2S	N	12.76
GEI-2I	N	12.94

Well ID	Product	Depth to Water
GEI-3I	N	15.16
WP-A1	11.53	12.00
WP-A2	NA	NA
WP-A3	10.68	11.41
WP-A4	11.53**	12.56**
WP-A5	N	13.8
WP-A6	13.19	14.74
WP-A7	10.96	(all product)
WP-A8	13.49	15.75
WP-A9	15.19	17.65
WP-B1	N	9.35
WP-B2	N	8.34
WP-B3	N	9.02
WP-B4	8.61	(all product)
WP-B5	N	7.21
WP-B6	N	7.76
WP-B7	N	5.36
WP-B10	N	8.82
WP-C1	N	9.58
WP-C2	N	9.17
WP-C3	N	7.59
WP-C4	N	Dry
SG-D1	N	Dry
SG-D2	N	Dry
SG-D3	N	0.82
SG-R1	N	1.36
SG-R2	N	0.70
SG-R3	N	Dry
EFR-1	*	*
EFR-2	*	*
EFR-3	*	*
EFR-4	*	*
EFR-5	*	*
EFR-6	*	*
EFR-7	*	*
EFR-8	*	*
EFR-9	*	*
EFR-10	*	*
EFR-11	*	*
EFR-12	*	*
EFR-13	*	*
EFR-14	*	*
EFR-15	*	*
EFR-16	*	*
EFR-17	*	*
EFR-18	*	*

Well ID	Product	Depth to Water
EFR-19	*	*
EFR-20	*	*
EFR-21	*	*
EFR-22	*	*
EFR-23	*	*
EFR-24	*	*
EFR-25	*	*
EFR-26	*	*
EFR-27	*	*
EFR-28	*	*

* Measurements Collected by RMT on later date

** Flush mount broken in ground

Monitoring Well Data

Client: RMT

Project: LE Carpenter

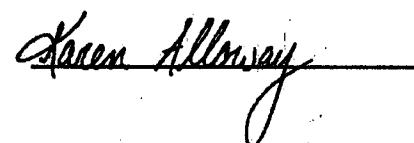
Date Sampled: 10/26/01

Job No.: Q293

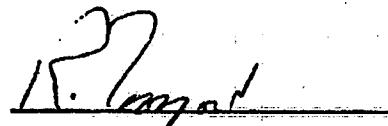
Name of Analyst: Karen Alloway

Names & Signatures of

Samplers: Karen Alloway



Richard Toogood



Laboratory Chronicles

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison**

**777 New Durham Road, Edison, New Jersey
08817**

Job No: Q293

Site: L.E. Carpenter

Client: Residuals Management Technologies, Inc.

BNAMS

WATER - 625

**INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Edison**

**777 New Durham Road, Edison, New Jersey
08817**

Job No: Q293

Site: L.E. Carpenter

Client: Residuals Management Technologies, Inc.

VOAGC

602

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
WATER							
310229	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310230	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310231	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310232	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310234	10/26/2001	10/26/2001			11/3/2001	Khuu, Vivian	7278
310235	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310236	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310237	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310238	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310239	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7275
310240	10/26/2001	10/26/2001			10/30/2001	Zhang, John	7276

Methodology Review

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/ neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

Element	Water Test Method		Solid Test Method	
	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability - Method 1020A

Corrosivity - Water pH Method 9040B
Soil pH Method 9045C

Reactivity - Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release

Toxicity - TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

Data Reporting Qualifiers

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Non-Conformance Summary

NON-CONFORMANCE SUMMARY

STL Edison Job Number: Q293

Volatile Organics Analysis:

All data conforms with method requirements ; or

Analysis was not requested ; or

Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements ; or

Analysis was not requested ; or

Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements ; or

Analysis was not requested ; or

Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Page 1 of 2

Non-conformance Summary, Page 2 of 2
STL Edison Job Number: 0293

Metals Analysis:

All data conforms with method requirements _____; or
Analysis was not requested /; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Total Petroleum Hydrocarbons:

All data conforms with method requirements _____; or
Analysis was not requested /; or
Non-conformance for the specific samples listed is as follows:

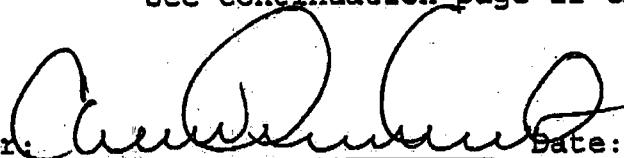
See continuation page if checked ()

General Chemistry/Disposal Parameters:

All data conforms with method requirements _____; or
Analysis was not requested /; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ()

Signature of
Laboratory Manager:

John Doe Date: 11-29-01